

# Regulatory WWAN Antenna Information

Platform	
Platform Owner	Dell Inc.
Brand Name	Dell
Regulatory Model	PT02
Regulatory Type	PT02002
ODM	Quanta Computer Inc.
Target Launch Date	2010/3/30
Antenna	
Brand Name	Auden
Part Number	<input checked="" type="checkbox"/> Tx1 Antenna: 220265-09
	<input checked="" type="checkbox"/> Tx2 (or Rx2) Antenna : 220265-09
Module	
With WWAN Module (Check Box)	<input checked="" type="checkbox"/> Ericsson (DW5540)

## 1. Specifications

### Antenna Specifications

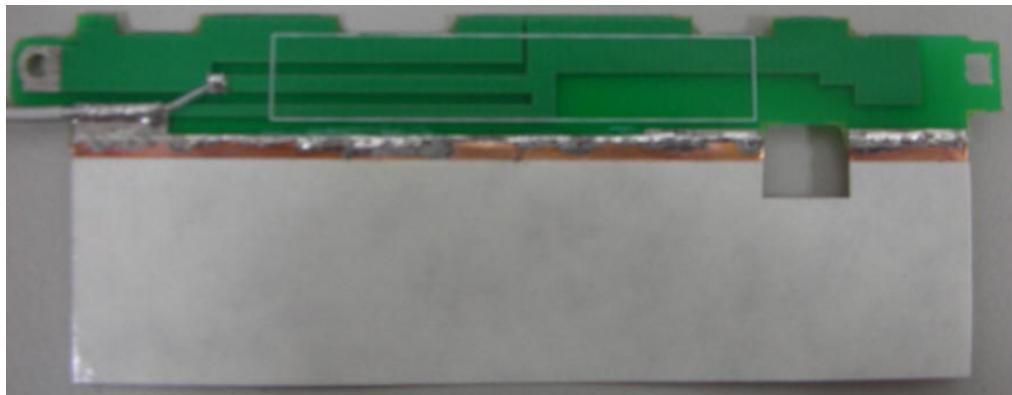
**Remark:** Peak Gains include all system losses (connector, cable, etc)

Antenna Type (Material, Technology)	PCB, IFA
Operating Frequency Range(s)	824MHz ~ 960MHz and 1710MHz ~ 2170MHz
Peak Gain (Low Band) (dBi)	Main: -0.06 / Aux: -1.85
Peak Gain (High Band) (dBi)	Main: 1.15 / Aux: 0.01
Radio Connector Type	T-NOTE
Mid-Line Connector Type (If Applicable)	N/A

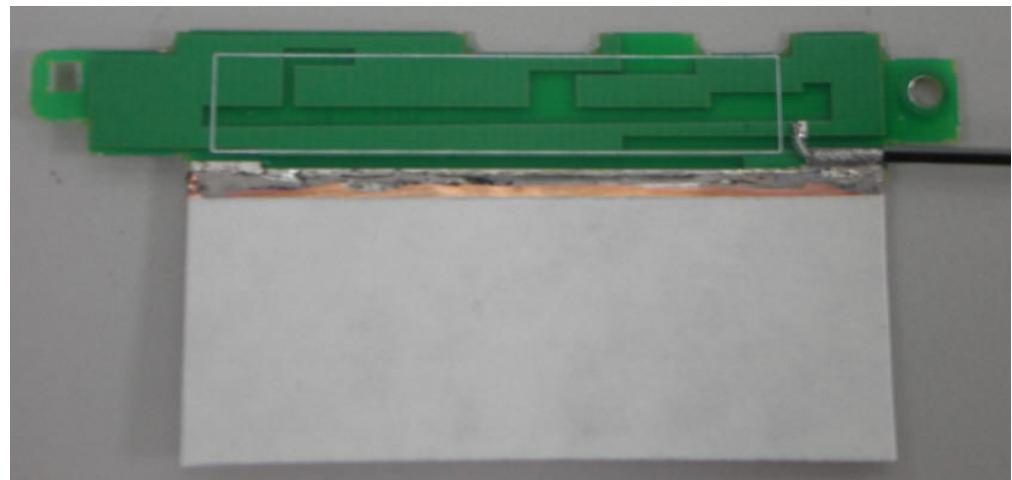
### Cable Specifications

Cable Parameters	Main			Aux			
	LCD Side	Base Side	Total	LCD Side	Base Side	Total	
Length (mm)	N/A	N/A	398.1	N/A	N/A	617.4	
Loss (Including Connectors) (dB, 0.9GHz / 2GHz)			0.60 / 0.91			0.97 / 1.45	
Description (Color, Diameter, Manufacturer)	Color: White with a gray stripe OD: 1.13 mm (low loss) Vendor: GBE			Color: Black with a gray stripe OD: 1.13 mm (low loss) Vendor: GBE			

## 2. Antenna Assembly



Main Antenna



Aux Antenna

## 3. Antenna Assembly Installed in The Notebook

Main Antenna



ATM - ATM  
ZM2 Rev:X03  
WWAN MAIN



Aux Antenna

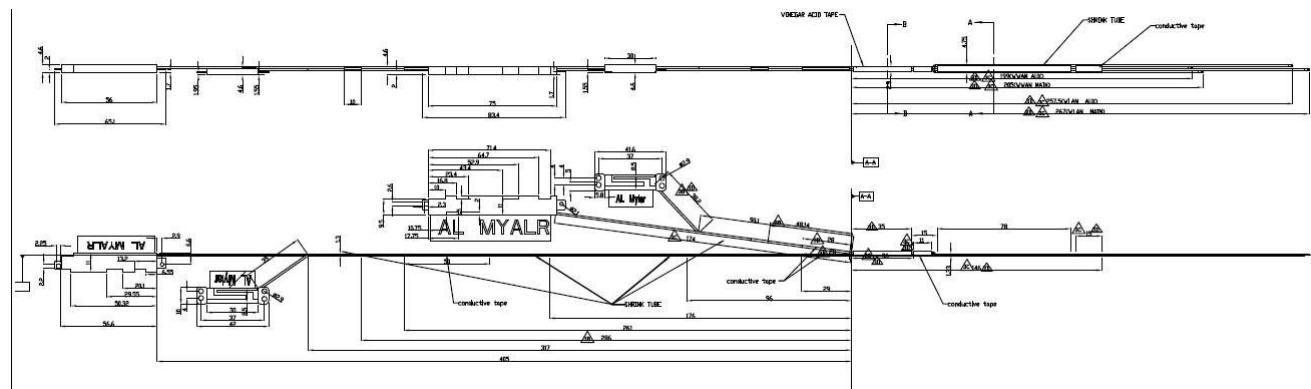


ATM - ATM  
ZM2 Rev:X03  
WWAN AUX

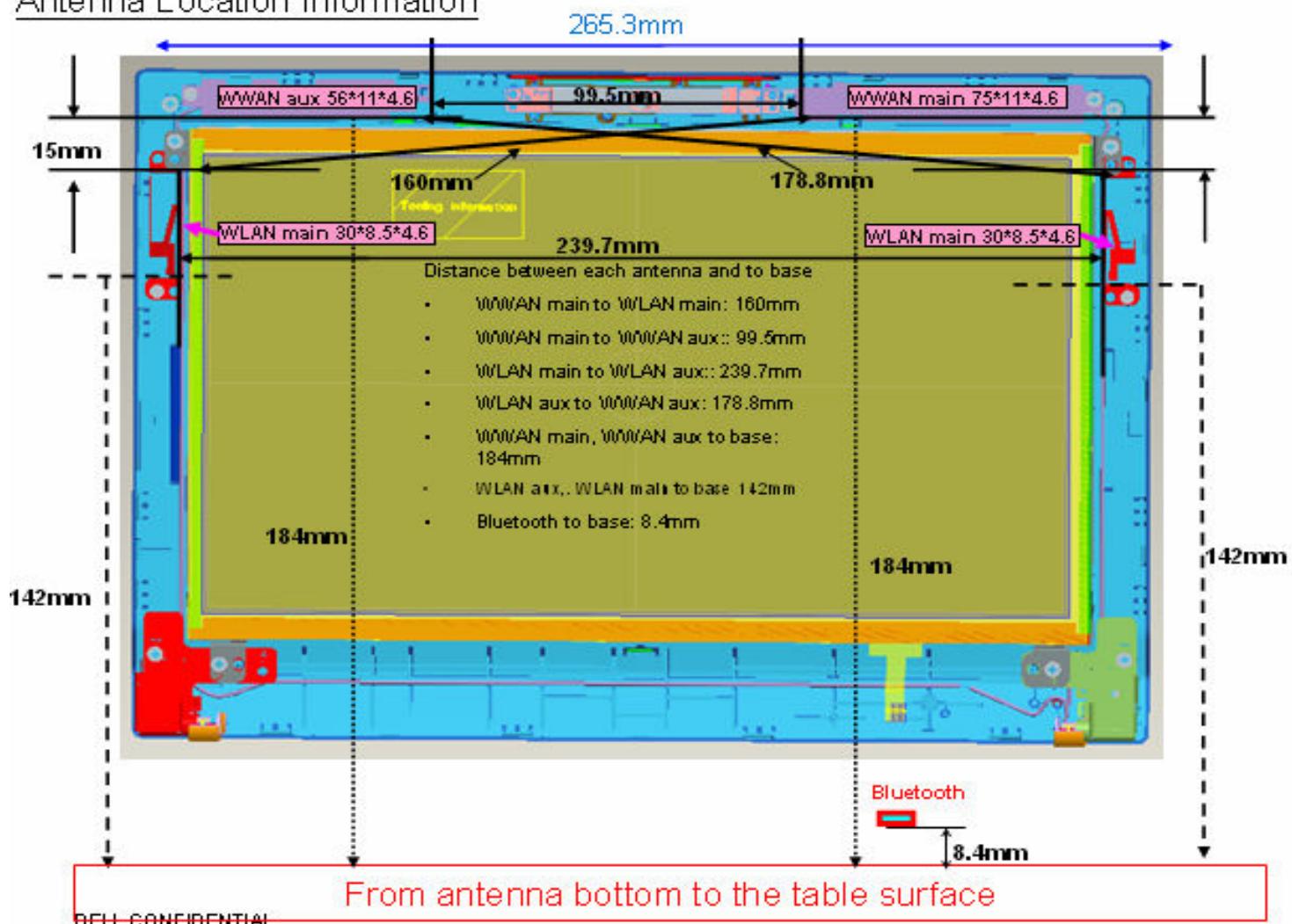


## 4. Mechanical Drawing of Antennas

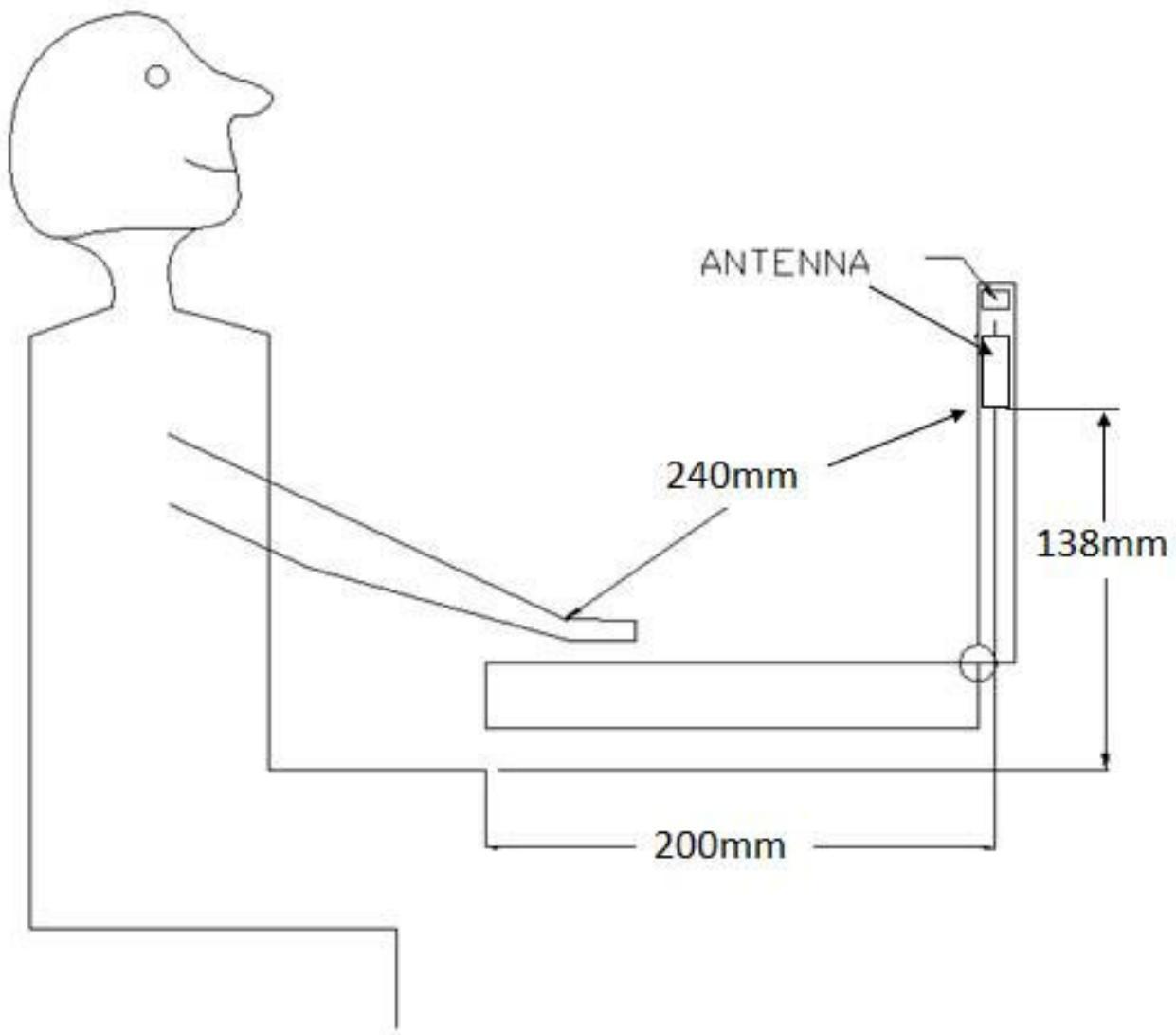
### Main and Aux Antenna



### Antenna Location Information



## 5. Antenna dimensional information for SAR evaluation

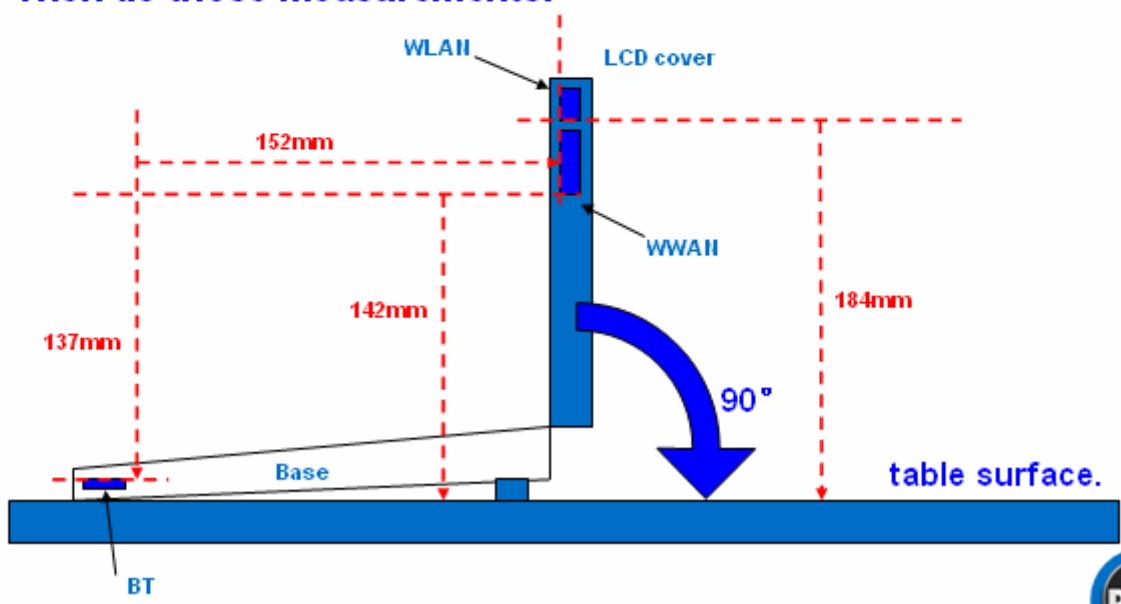


## 6. Diagram of Co-Location Antenna Separation

## Antenna dimensional information

Please open the LCD lid to 90° , which is perpendicular to the table surface.

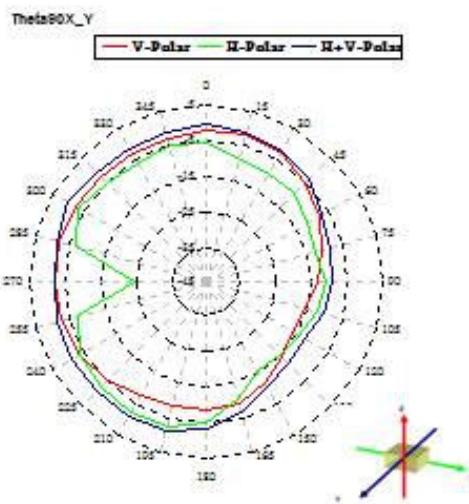
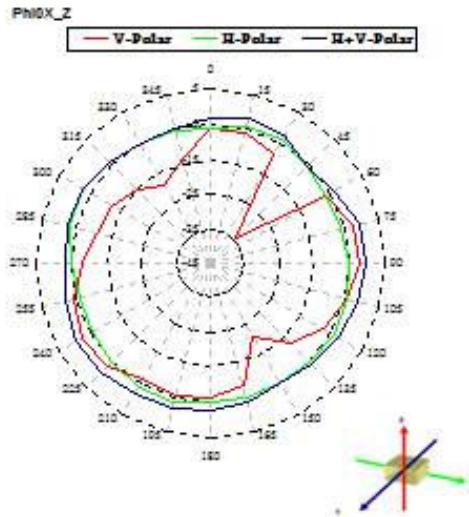
Then do those measurements.



## 7. Gain Patterns

### Main Antenna

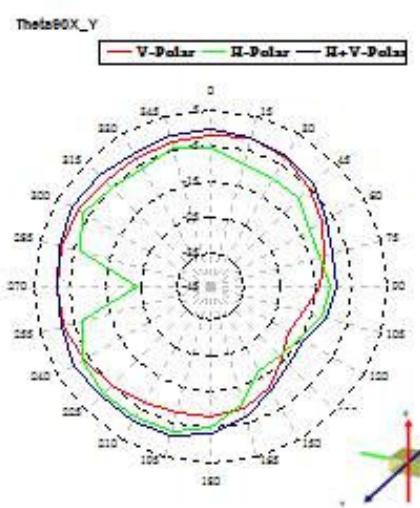
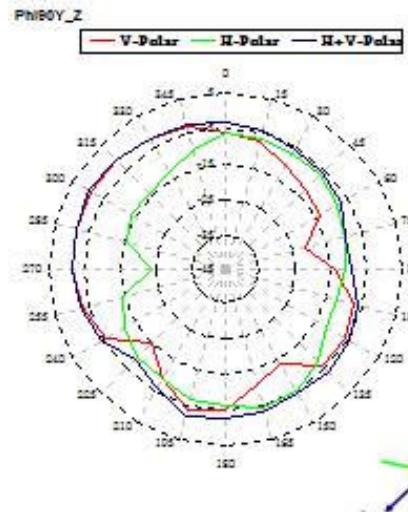
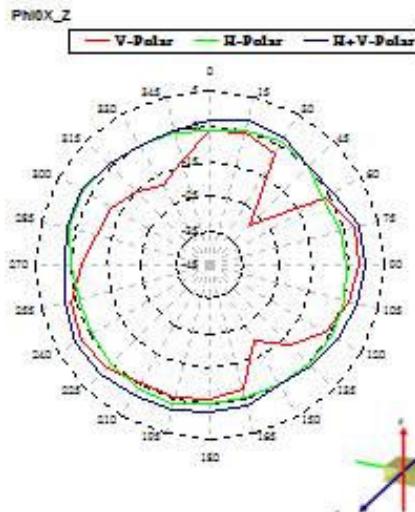
824 MHz



Frequency = 824 MHz

plane Antenna(P)	Phi0	Phi90	Theta90
V(Peak Gain)	-2.31	-0.99	-1.85
H(Peak Gain)	-3.11	-4.38	-2.26
V(Avg Gain)	-9.65	-8.03	-6.93
H(Avg Gain)	-5.08	-10.63	-8.92

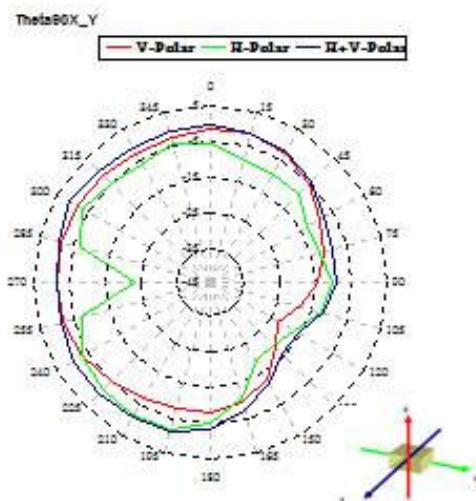
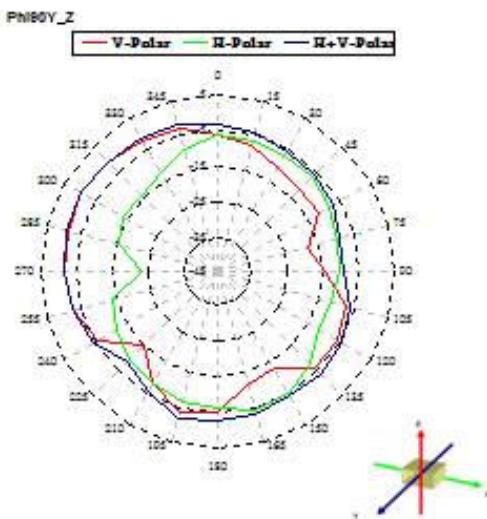
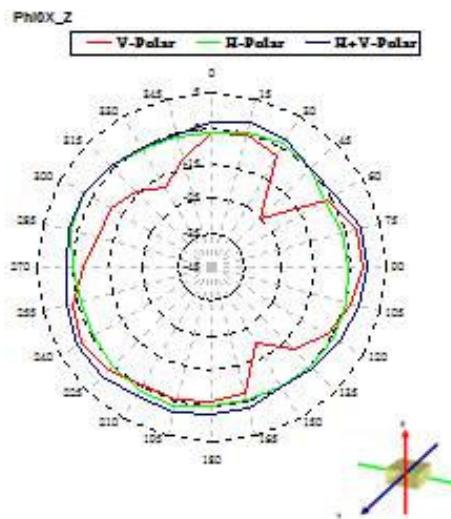
830 MHz



Frequency = 830 MHz

plane Polarization	Phi0	Phi90	Theta90
V(Peak Gain)	-2.01	-0.75	-1.62
H(Peak Gain)	-3.01	-4.31	-1.95
V(Avg Gain)	-9.12	-7.69	-7.15
H(Avg Gain)	-5.10	-10.42	-9.08

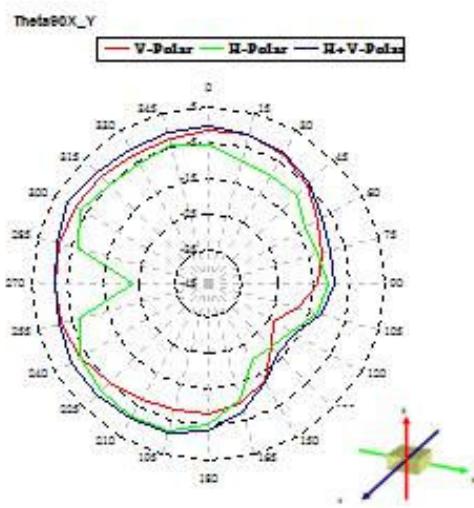
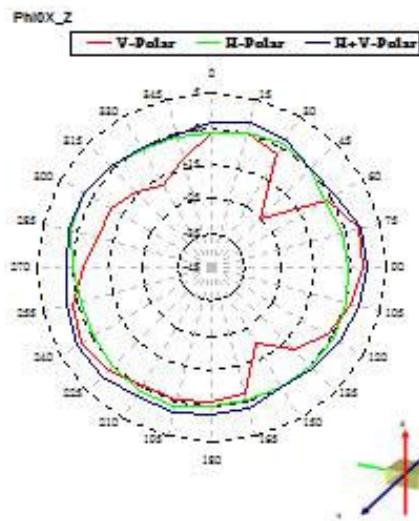
835 MHz



Frequency = 835 MHz

plane Gain(dB)	Phi0	Phi90	Theta90
V(Peak Gain)	-1.82	-0.65	-1.48
H(Peak Gain)	-3.06	-4.27	-1.73
V(Avg Gain)	-8.78	-7.48	-7.49
H(Avg Gain)	-5.20	-10.26	-9.31

836 MHz

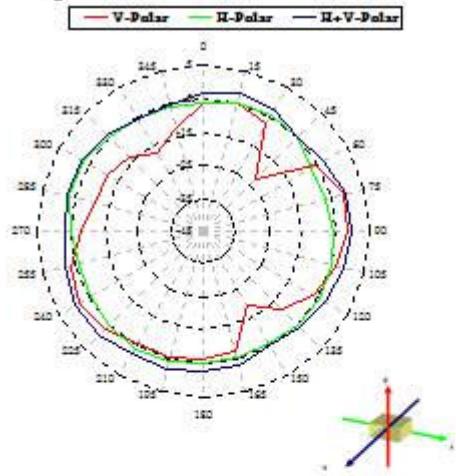


Frequency = 836 MHz

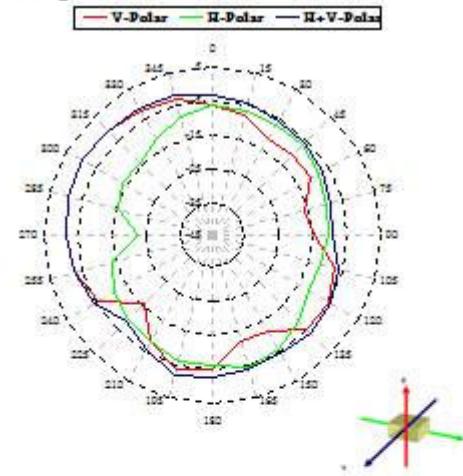
plane	Phi0	Phi90	Theta90
V(Peak Gain)	-1.76	-0.60	-1.43
H(Peak Gain)	-3.07	-4.25	-1.68
V(Avg Gain)	-8.70	-7.41	-7.53
H(Avg Gain)	-5.22	-10.22	-9.38

840 MHz

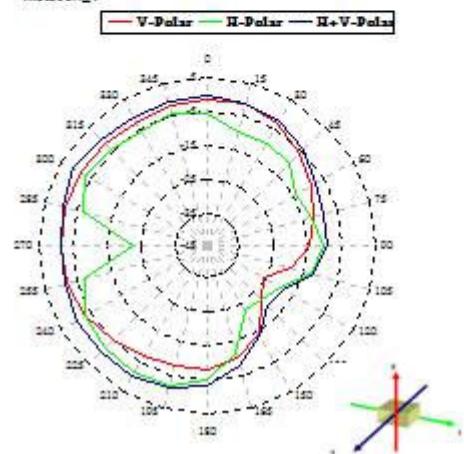
Phi0X\_Z



Phi90Y\_Z



Theta90X\_Y

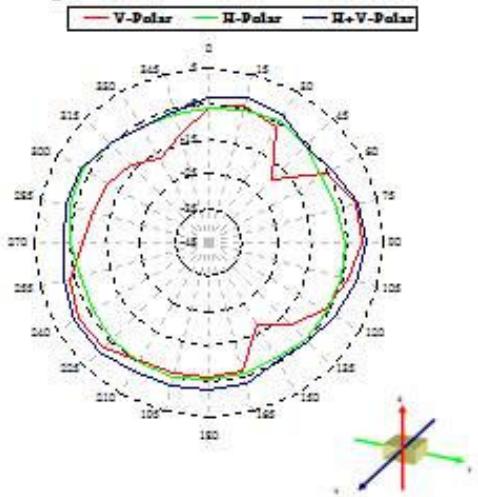


Frequency = 840 MHz

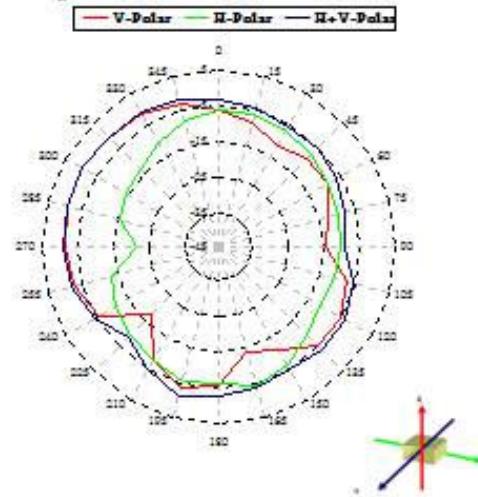
plane	Phi0	Phi90	Theta90
V(Peak Gain)	-1.60	-0.50	-1.34
H(Peak Gain)	-3.14	-4.30	-1.55
V(Avg Gain)	-8.45	-7.27	-7.79
H(Avg Gain)	-5.35	-10.12	-9.71

849 MHz

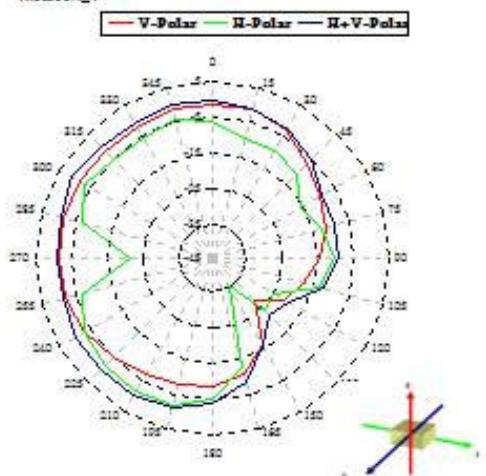
Phi0X\_Z



Phi90Y\_Z



Theta90X\_Y

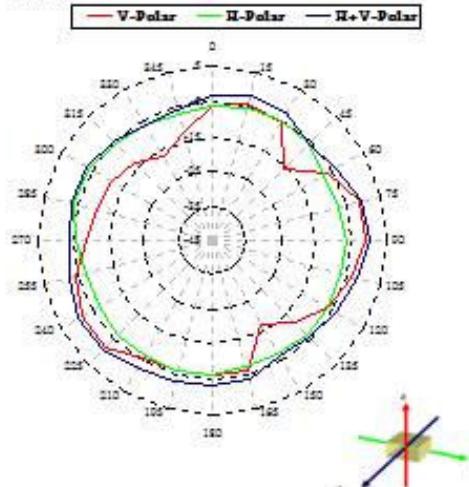


Frequency = 849 MHz

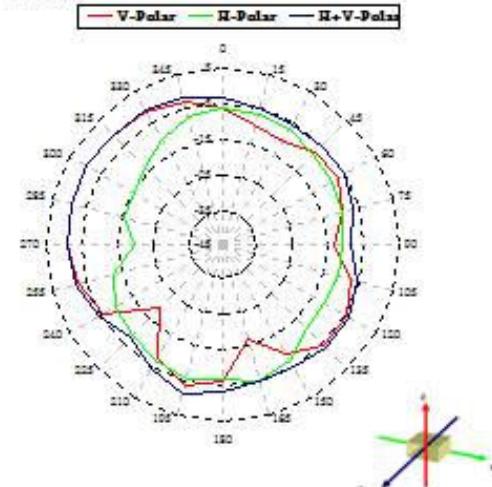
plane \ Gain(dB)	Phi0	Phi90	Theta90
V(Peak Gain)	-1.31	-0.33	-1.20
H(Peak Gain)	-3.54	-4.54	-1.37
V(Avg Gain)	-8.10	-7.02	-7.91
H(Avg Gain)	-5.84	-9.98	-10.71

860 MHz

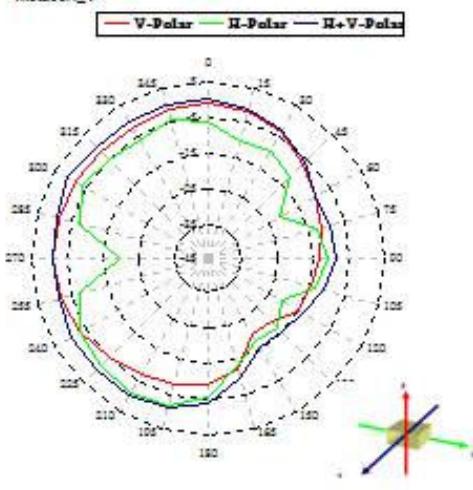
Phi0X\_Z



Phi90Y\_Z



Theta90X\_Y

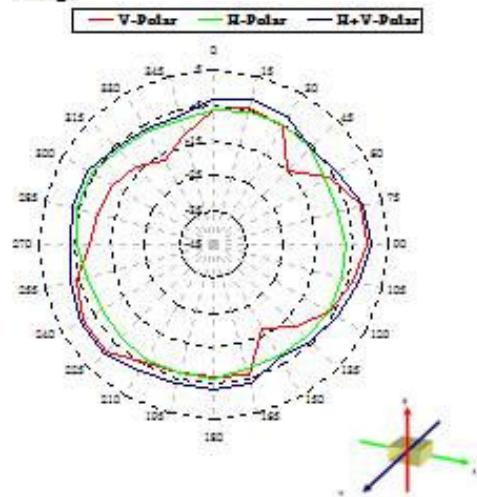


Frequency = 860 MHz

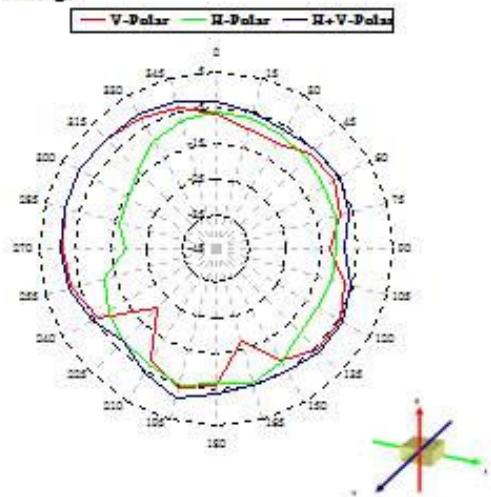
plane Azimuthal	Phi0	Phi90	Theta90
V(Peak Gain)	-1.12	-0.34	-1.12
H(Peak Gain)	-4.12	-5.12	-1.25
V(Avg Gain)	-7.93	-6.85	-7.38
H(Avg Gain)	-6.57	-10.01	-9.85

865 MHz

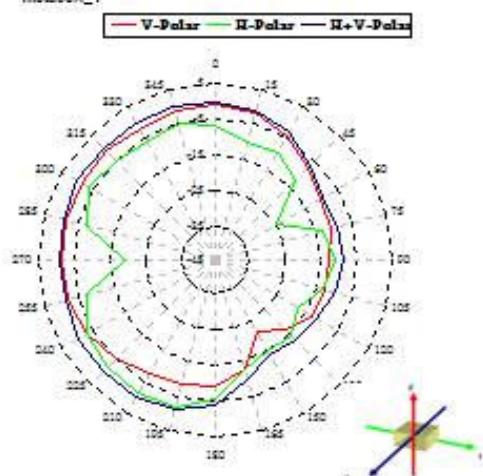
Phi0X\_Z



Phi90Y\_Z



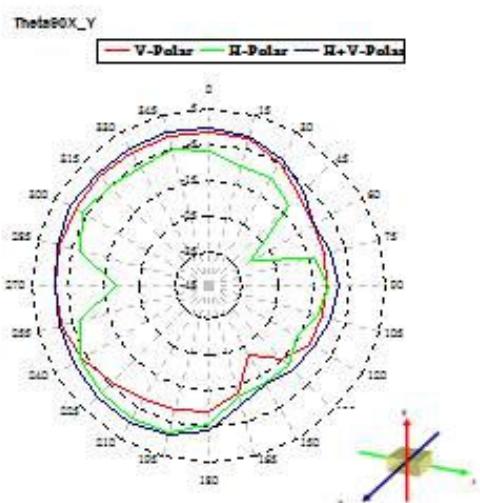
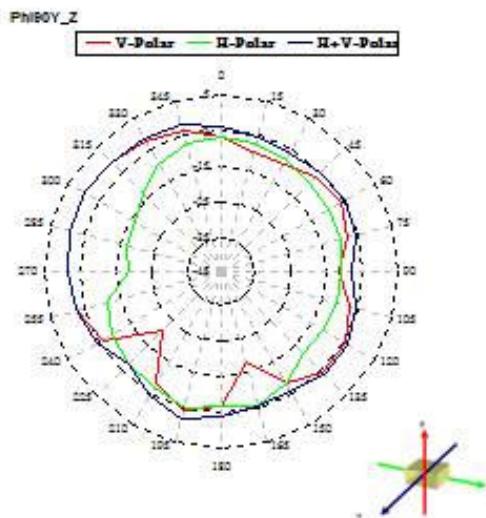
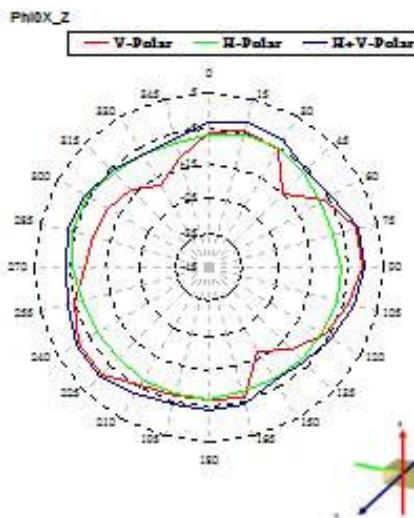
Theta90X\_Y



Frequency = 865 MHz

plane \ Gain(dB)	Phi0	Phi90	Theta90
V(Peak Gain)	-1.16	-0.45	-1.16
H(Peak Gain)	-4.34	-5.32	-1.28
V(Avg Gain)	-7.95	-6.82	-7.24
H(Avg Gain)	-6.91	-10.13	-9.68

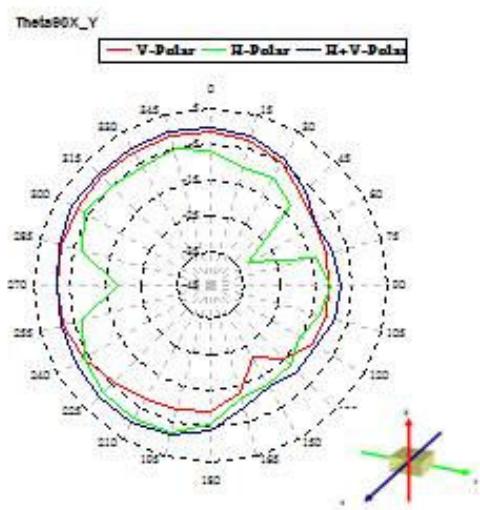
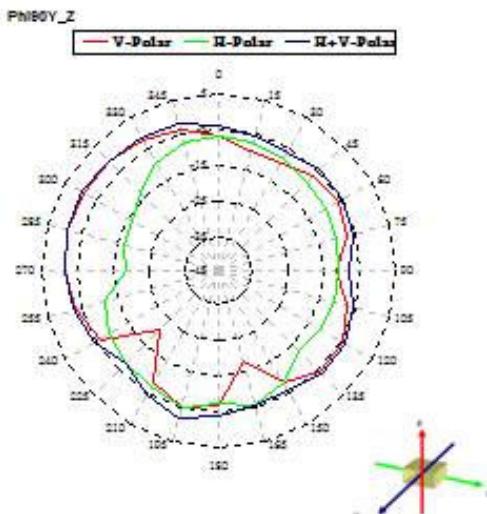
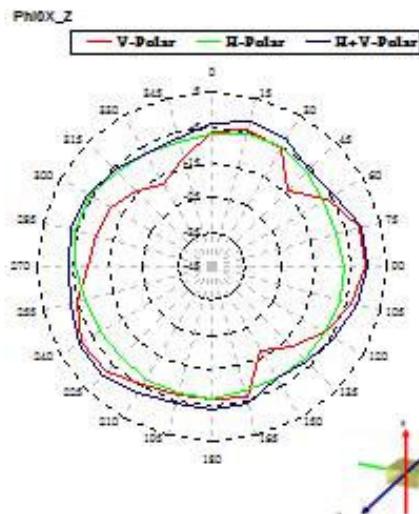
869 MHz



Frequency = 869 MHz

plane \ Azim(80)	Phi0	Phi90	Theta90
V(Peak Gain)	-1.27	-0.60	-1.26
H(Peak Gain)	-4.41	-5.22	-1.31
V(Avg Gain)	-8.05	-6.78	-7.16
H(Avg Gain)	-7.12	-10.24	-9.70

870 MHz

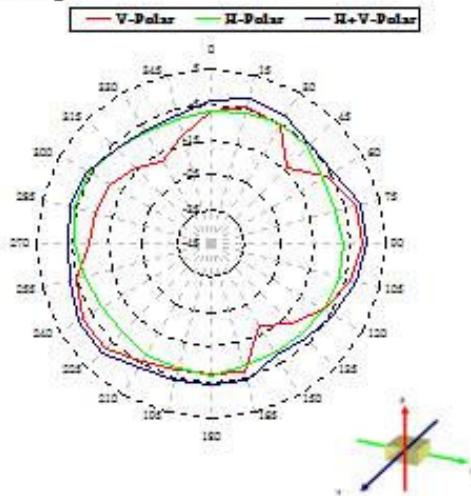


Frequency = 870 MHz

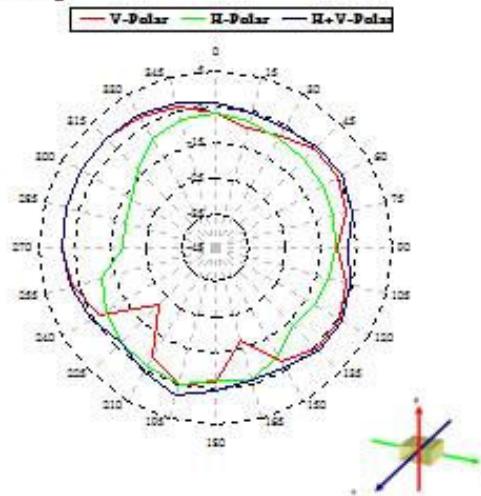
plane \ polar	Phi0	Phi90	Theta90
V(Peak Gain)	-1.32	-0.65	-1.27
H(Peak Gain)	-4.47	-5.21	-1.34
V(Avg Gain)	-8.10	-6.79	-7.15
H(Avg Gain)	-7.19	-10.29	-9.73

875 MHz

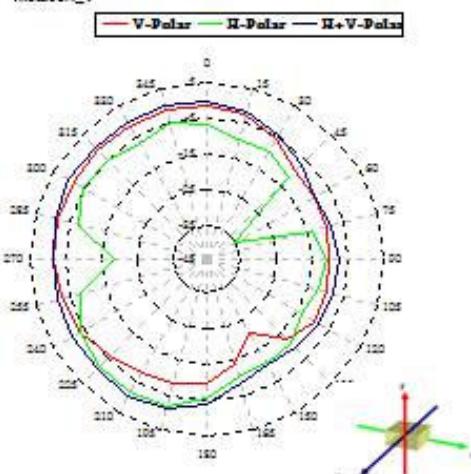
Phi0X\_Z



Phi90Y\_Z



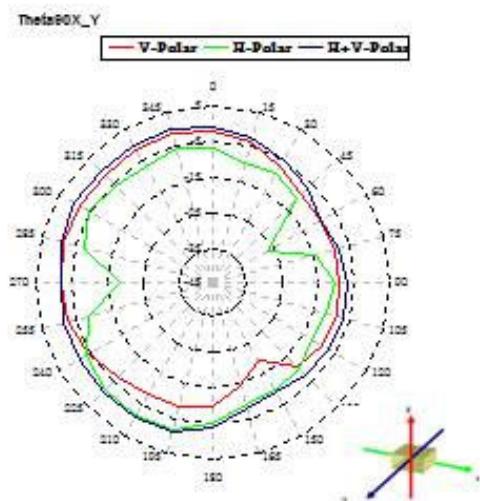
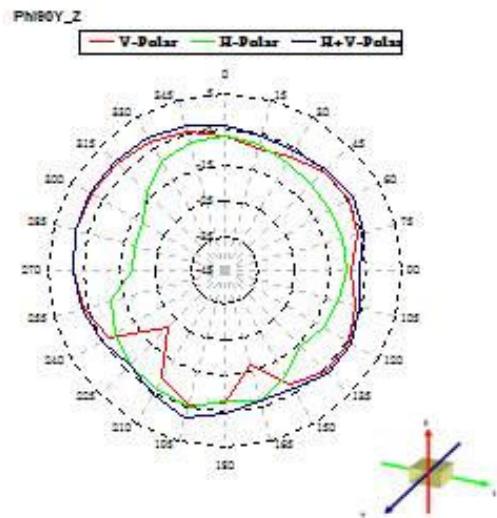
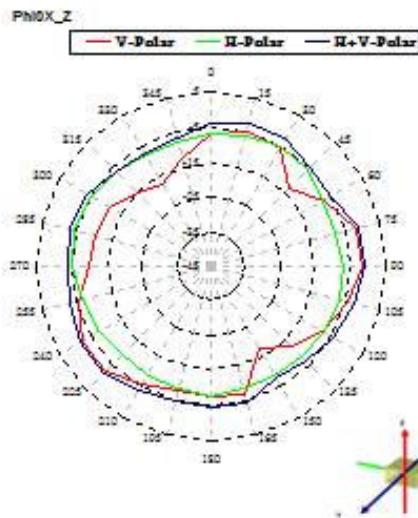
Theta90X\_Y



Frequency = 875 MHz

plane Azim(dB)	Phi0	Phi90	Theta90
V(Peak Gain)	-1.50	-0.87	-1.22
H(Peak Gain)	-4.49	-5.09	-1.47
V(Avg Gain)	-8.26	-6.71	-7.00
H(Avg Gain)	-7.34	-10.48	-9.62

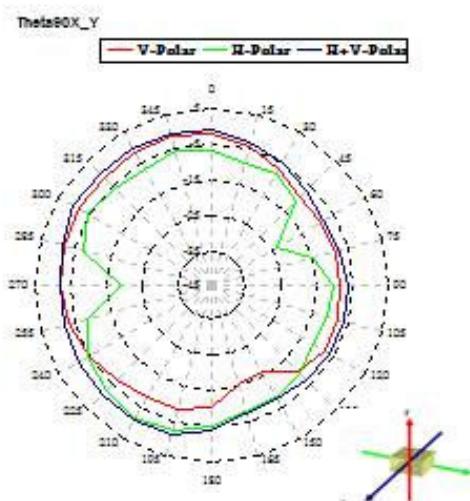
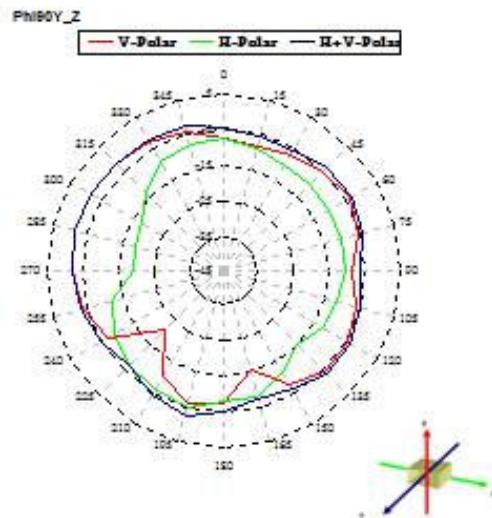
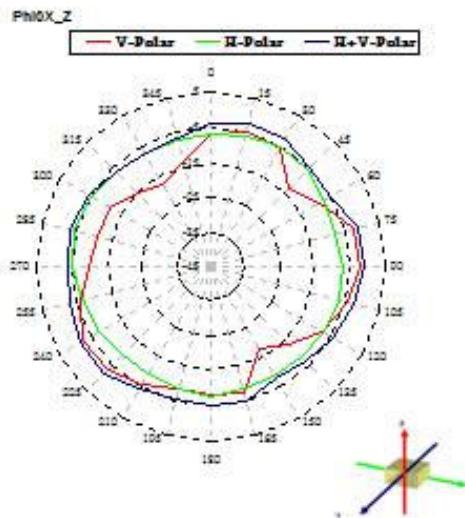
880 MHz



Frequency = 880 MHz

plane	Phi0	Phi90	Theta90
V(Peak Gain)	-1.90	-1.18	-1.34
H(Peak Gain)	-4.47	-5.06	-1.64
V(Avg Gain)	-8.54	-6.65	-6.91
H(Avg Gain)	-7.40	-10.73	-9.07

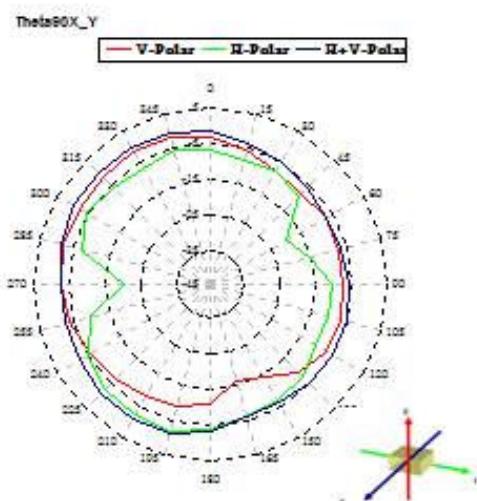
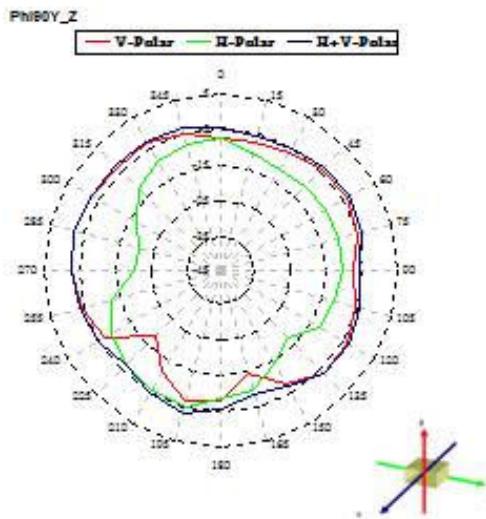
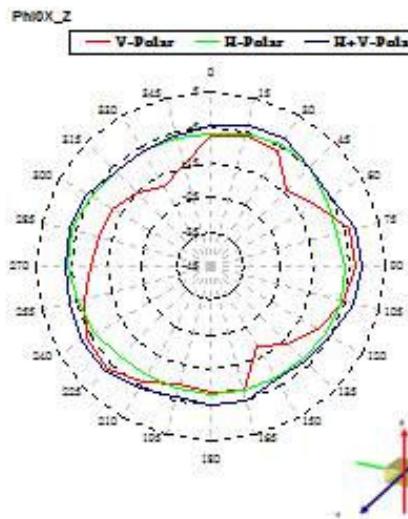
885 MHz



Frequency = 885 MHz

plane Axis(Bil)	Phi0	Phi90	Theta90
V(Peak Gain)	-2.33	-1.54	-1.47
H(Peak Gain)	-4.35	-5.09	-1.82
V(Avg Gain)	-8.88	-6.58	-6.80
H(Avg Gain)	-7.34	-11.04	-8.78

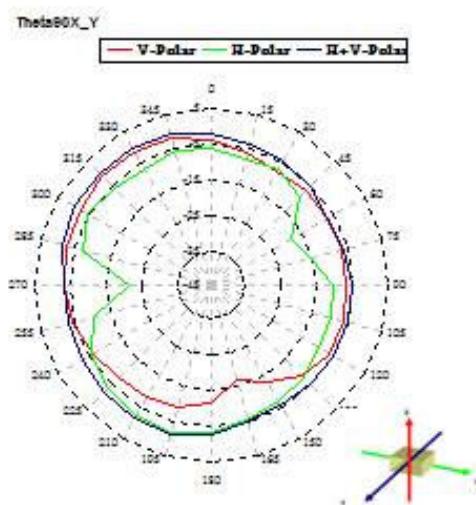
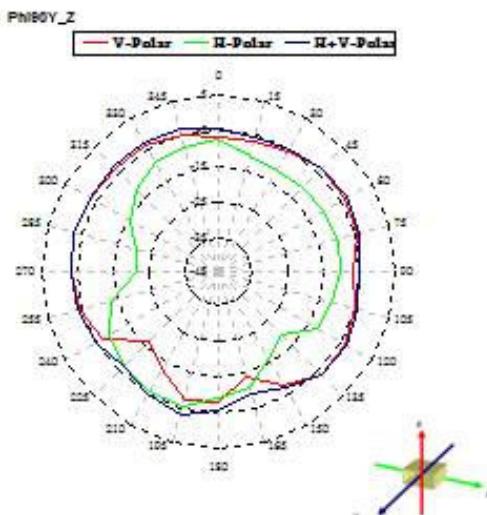
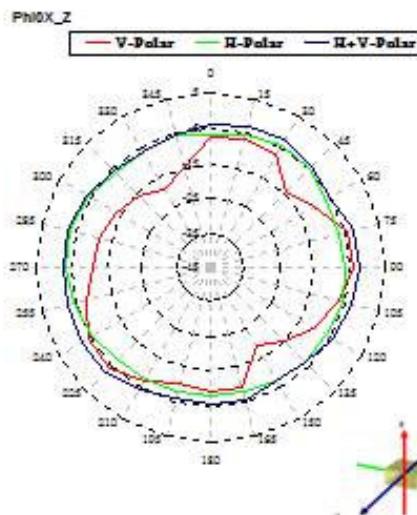
894 MHz



Frequency = 894 MHz

Plane	Phi0	Phi90	Theta90
V(Peak Gain)	-3.32	-2.24	-1.58
H(Peak Gain)	-3.86	-5.31	-2.07
V(Avg Gain)	-9.71	-6.46	-6.72
H(Avg Gain)	-6.77	-11.60	-8.34

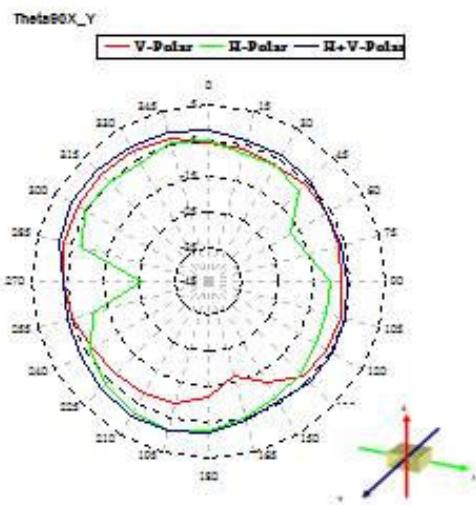
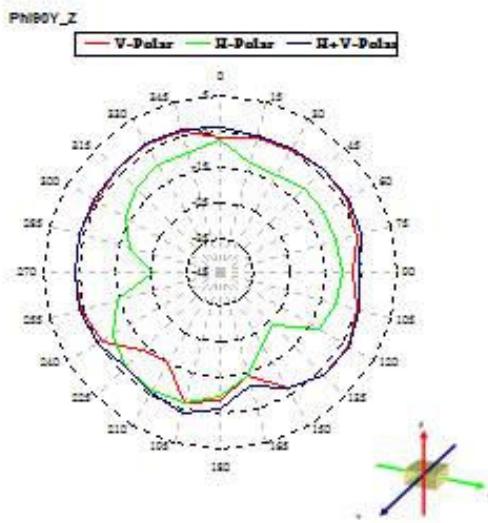
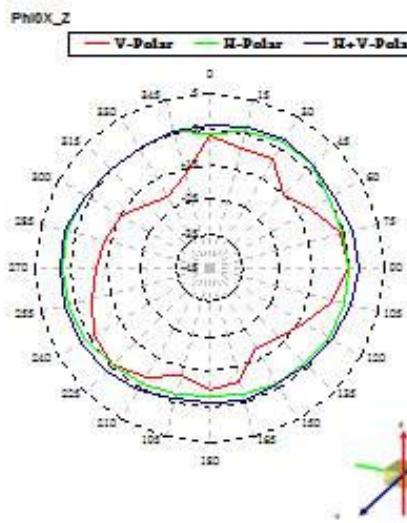
900 MHz



Frequency = 900 MHz

plane axis(dB)	Phi0	Phi90	Theta90
V(Peak Gain)	-4.11	-2.79	-1.68
H(Peak Gain)	-3.45	-5.60	-2.14
V(Avg Gain)	-10.40	-6.40	-6.69
H(Avg Gain)	-6.26	-11.99	-8.17

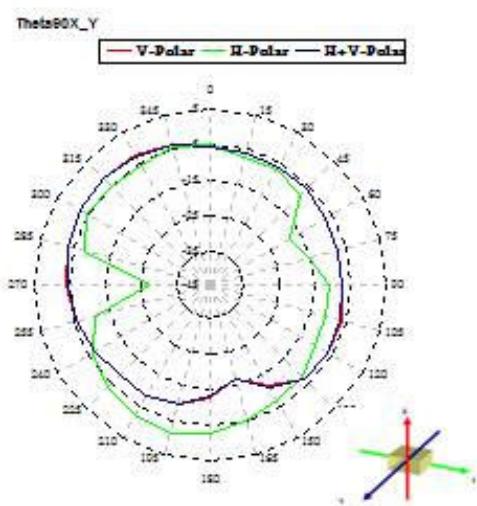
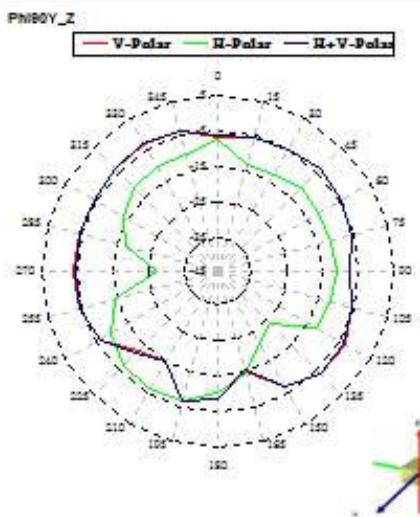
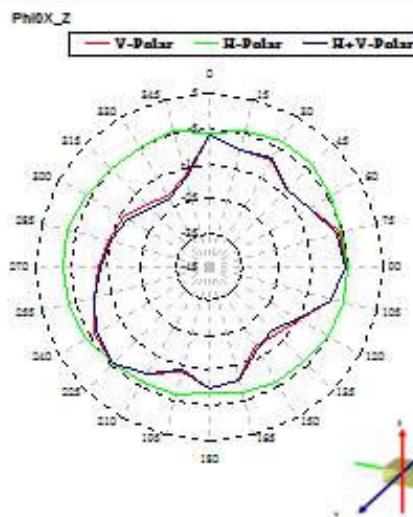
915 MHz



Frequency = 915 MHz

plane Beta/Ell	Phi0	Phi90	Theta90
V(Peak Gain)	-5.51	-3.40	-1.86
H(Peak Gain)	-2.76	-6.35	-1.60
V(Avg Gain)	-11.97	-6.35	-6.75
H(Avg Gain)	-5.32	-12.81	-8.12

920 MHz

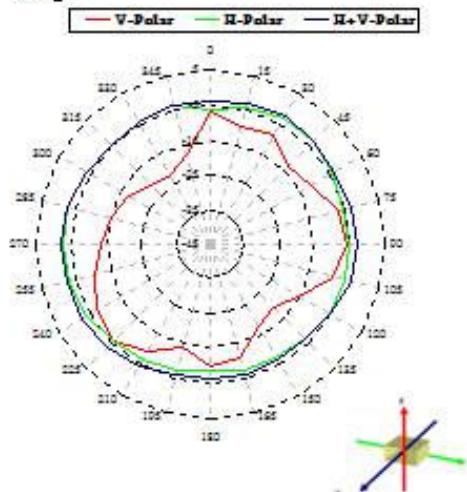


Frequency = 920 MHz

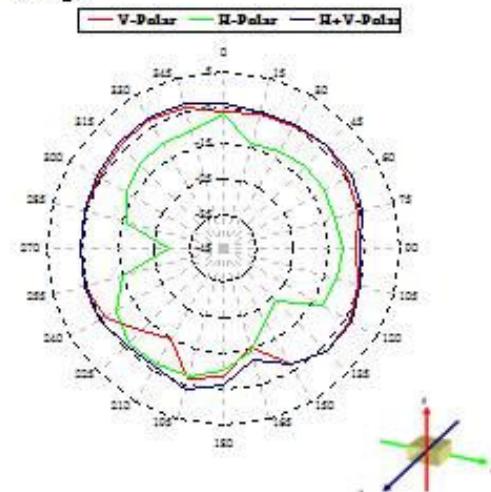
plane Azimuth(B)	Phi0	Phi90	Theta90
V(Peak Gain)	-5.78	-3.20	-1.95
H(Peak Gain)	-2.73	-6.52	-1.54
V(Avg Gain)	-12.39	-6.35	-6.88
H(Avg Gain)	-5.22	-12.99	-8.25

925 MHz

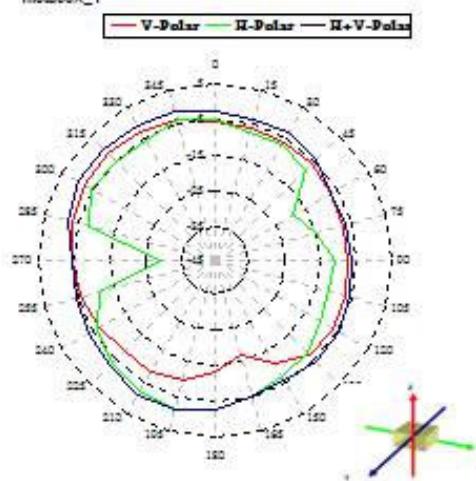
Phi0X\_Z



Phi90Y\_Z



Theta90X\_Y

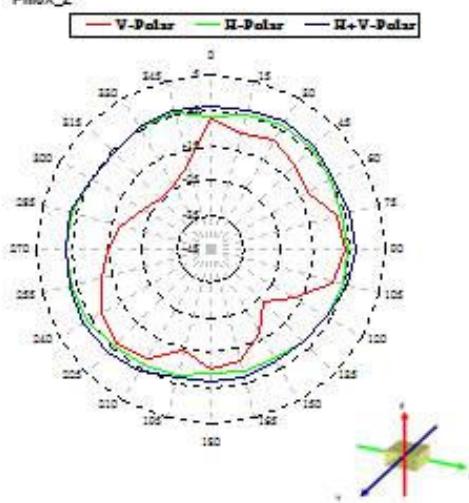


Frequency = 925 MHz

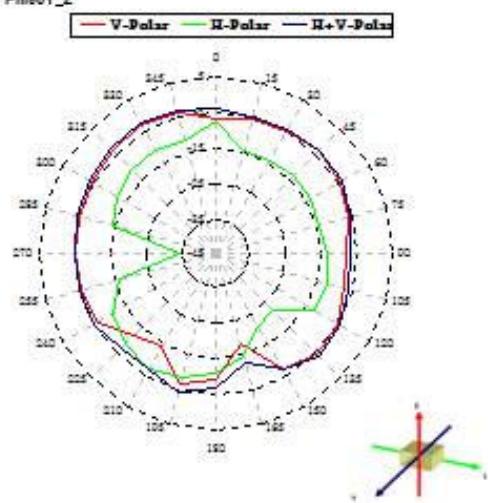
plane Azim(Rad)	Phi0	Phi90	Theta90
V(Peak Gain)	-5.90	-2.97	-2.11
H(Peak Gain)	-2.81	-6.66	-1.55
V(Avg Gain)	-12.72	-6.37	-7.01
H(Avg Gain)	-5.23	-13.15	-8.43

940 MHz

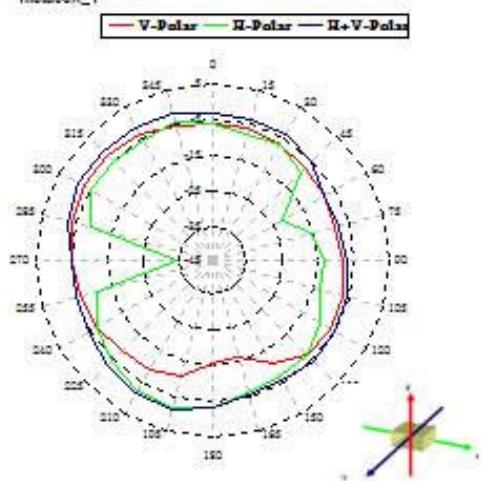
Phi0X\_Z



Phi90Y\_Z



Theta90X\_Y

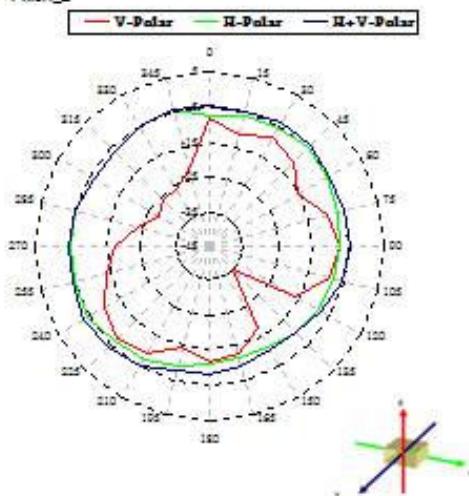


Frequency = 940 MHz

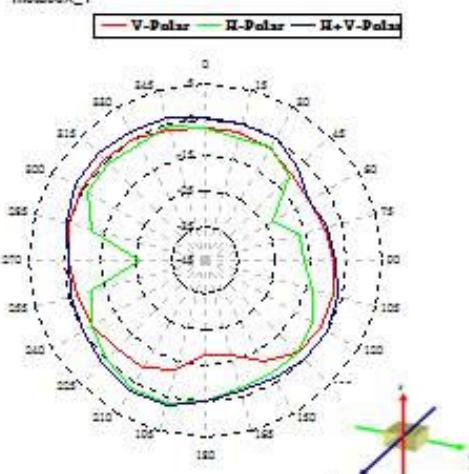
plane \ gain(dB)	Phi0	Phi90	Theta90
V(Peak Gain)	-6.39	-2.90	-2.89
H(Peak Gain)	-3.61	-7.42	-2.14
V(Avg Gain)	-13.88	-6.77	-7.70
H(Avg Gain)	-5.88	-13.94	-9.28

960 MHz

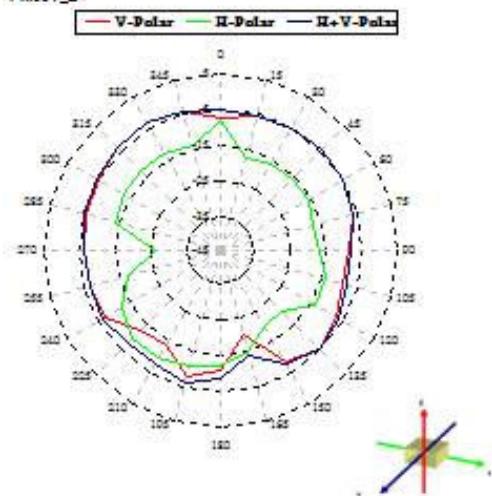
Phi0X\_Z



Theta90X\_Y



Phi90Y\_Z

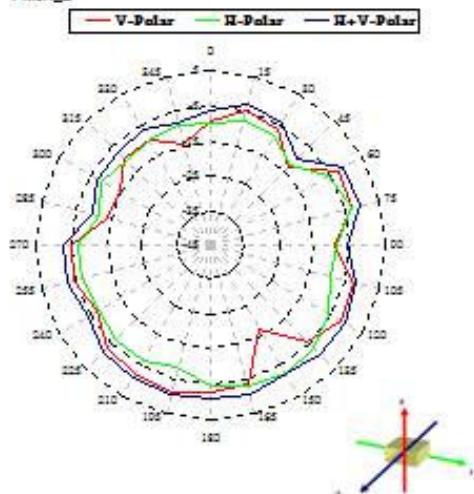


Frequency = 960 MHz

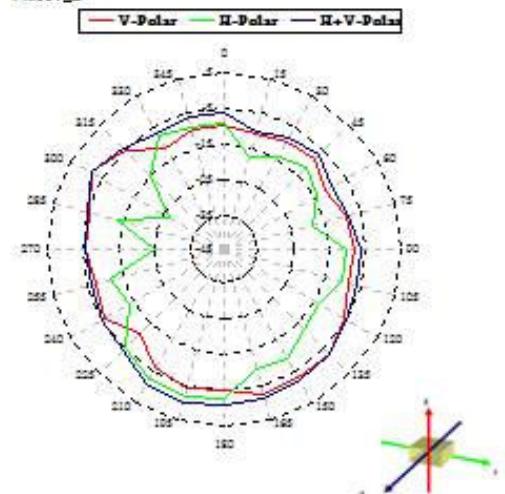
plane	Phi0	Phi90	Theta90
V(Peak Gain)	-7.44	-3.59	-4.27
H(Peak Gain)	-4.82	-8.14	-3.31
V(Avg Gain)	-15.76	-7.74	-8.93
H(Avg Gain)	-7.28	-15.10	-9.96

1710 MHz

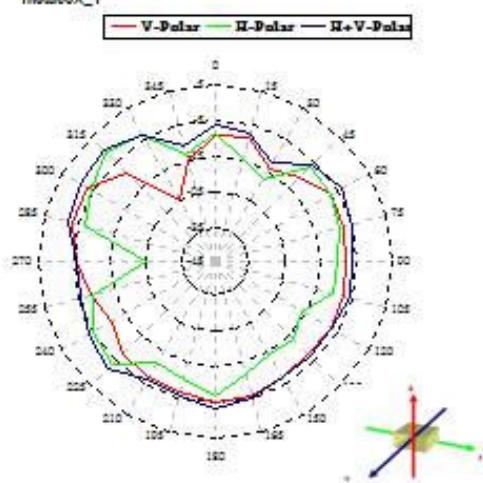
Phi0X\_Z



Phi90Y\_Z



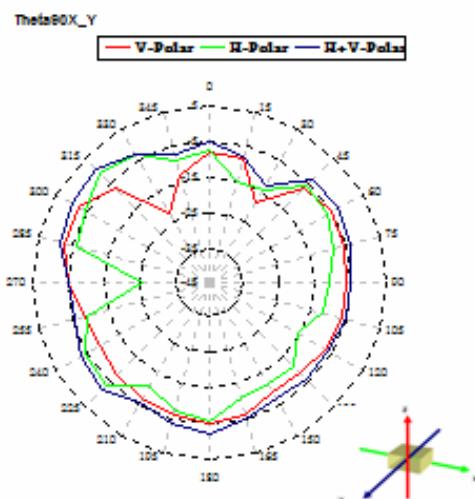
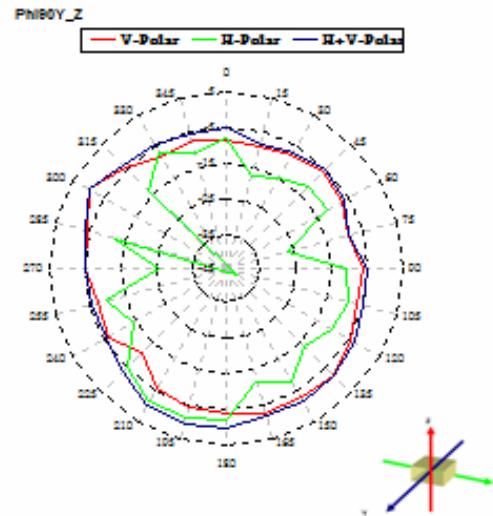
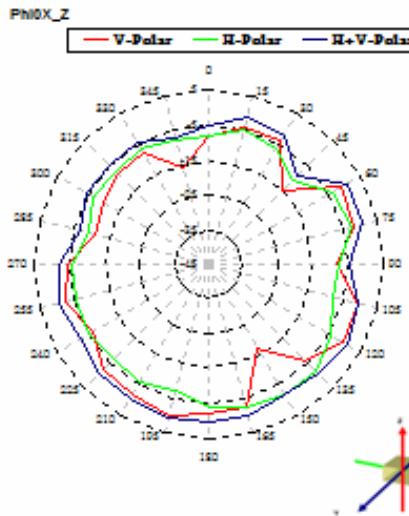
Theta90X\_Y



Frequency = 1710 MHz

plane Azimuth(R)	Phi0	Phi90	Theta90
V(Peak Gain)	-1.44	-1.36	-3.42
H(Peak Gain)	-2.35	-1.94	-1.16
V(Avg Gain)	-7.22	-7.14	-8.88
H(Avg Gain)	-7.60	-12.14	-10.20

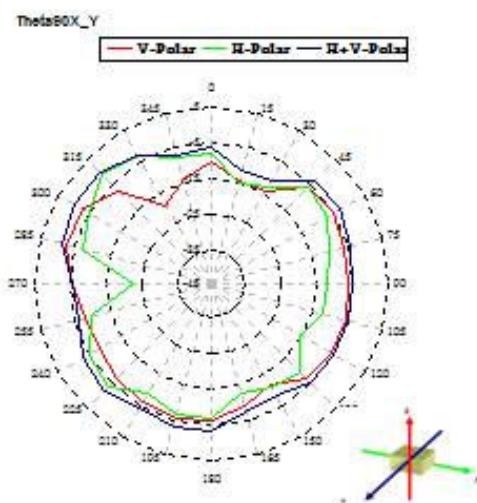
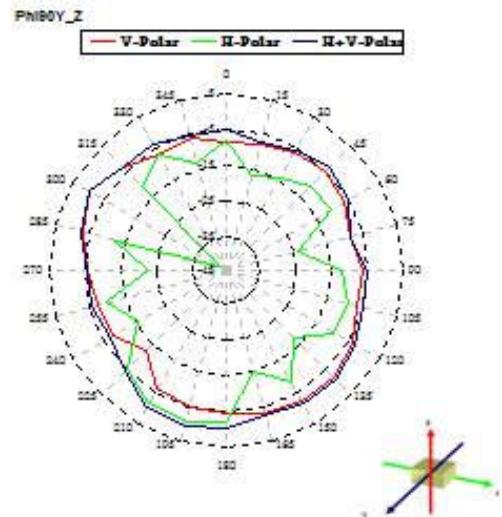
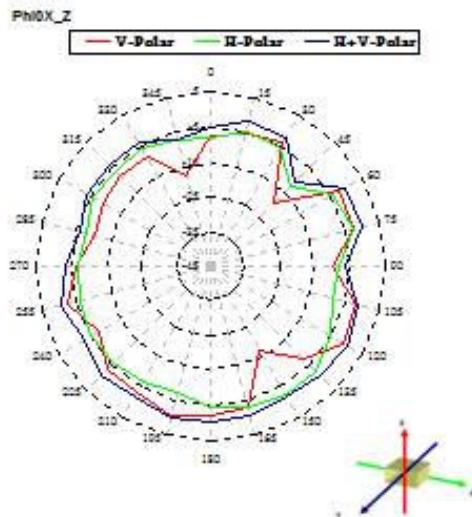
1750 MHz



Frequency = 1750 MHz

plane	Phi0	Phi90	Theta90
V(Peak Gain)	-0.03	-0.62	-2.33
H(Peak Gain)	-1.44	-0.74	-0.68
V(Avg Gain)	-6.06	-6.06	-8.14
H(Avg Gain)	-6.00	-12.81	-9.35

1785 MHz

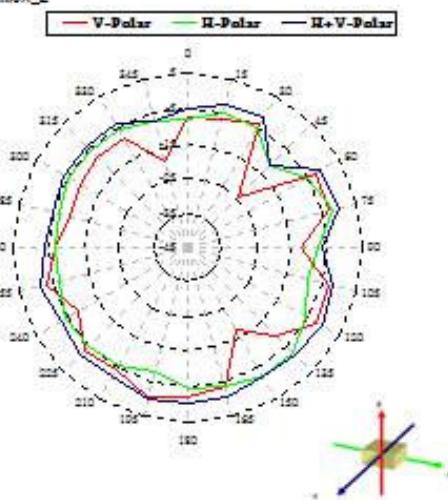


Frequency = 1785 MHz

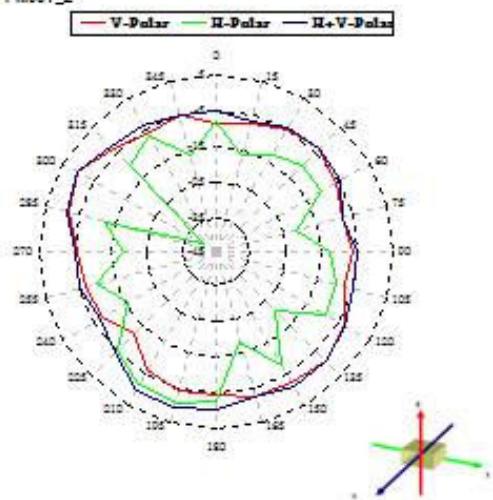
plane	Phi0	Phi90	Theta90
V(Peak Gain)	-0.36	-0.13	-2.50
H(Peak Gain)	-1.98	-0.53	-0.94
V(Avg Gain)	-6.94	-5.74	-8.28
H(Avg Gain)	-6.09	-12.78	-9.41

1805 MHz

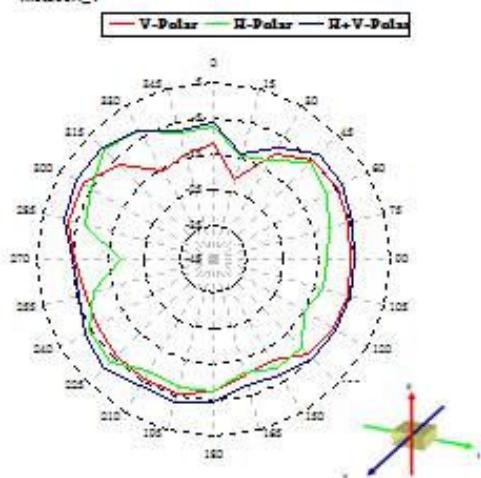
Phi0X\_Z



Phi90Y\_Z



Theta90X\_Y

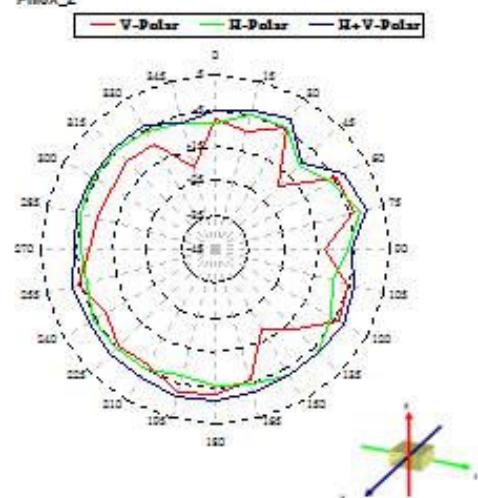


Frequency = 1805 MHz

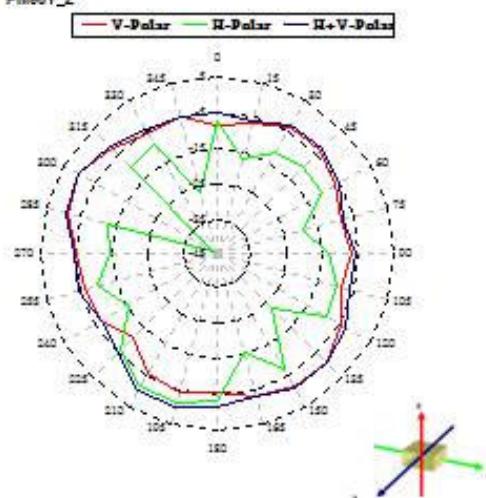
plane	Phi0	Phi90	Theta90
V(Peak Gain)	-0.87	0.28	-2.34
H(Peak Gain)	-2.35	-0.61	-1.04
V(Avg Gain)	-7.73	-5.35	-8.22
H(Avg Gain)	-6.05	-12.65	-9.04

1840 MHz

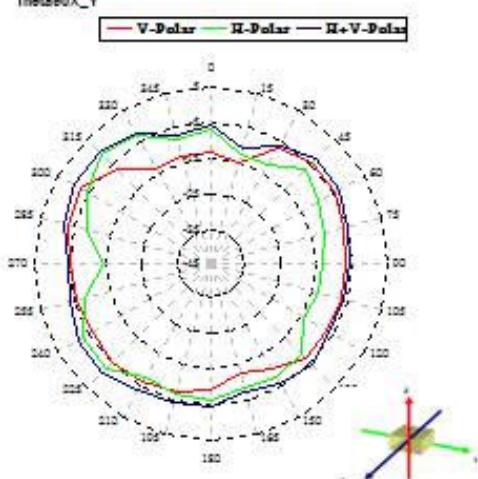
Phi0X\_Z



Phi90Y\_Z



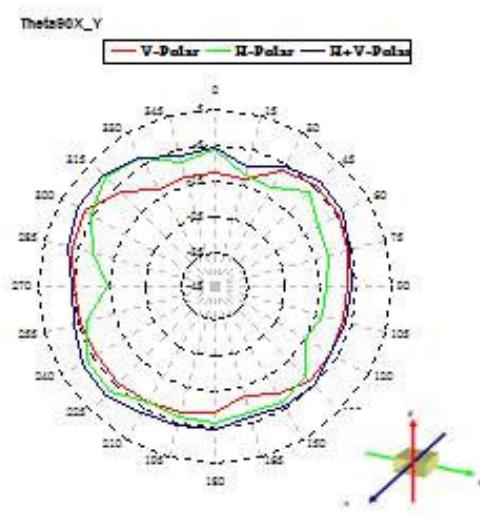
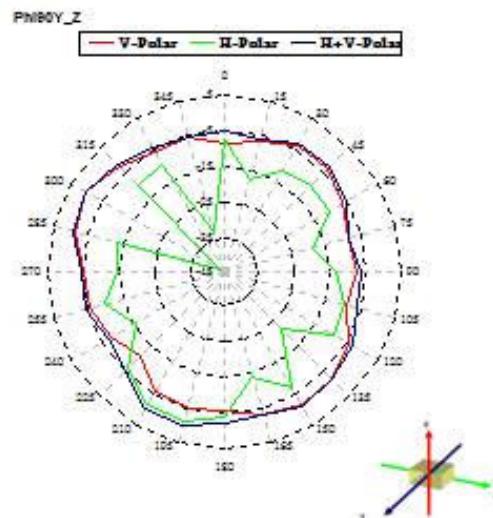
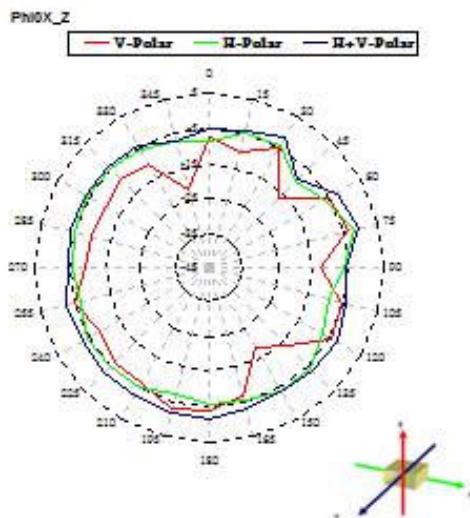
Theta90X\_Y



Frequency = 1840 MHz

plane	Phi0	Phi90	Theta90
V(Peak Gain)	-2.94	0.39	-2.29
H(Peak Gain)	-2.25	-1.43	-1.13
V(Avg Gain)	-8.86	-5.20	-7.77
H(Avg Gain)	-6.03	-13.02	-8.50

1850 MHz

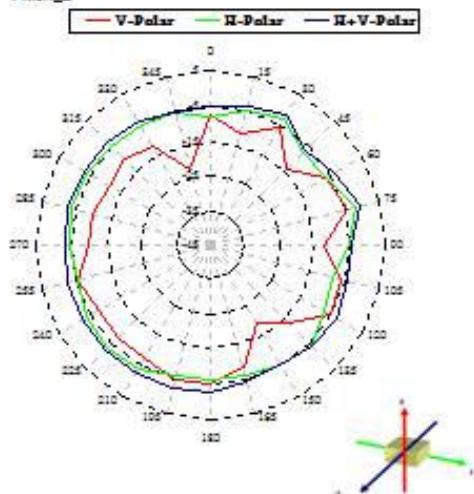


Frequency = 1850 MHz

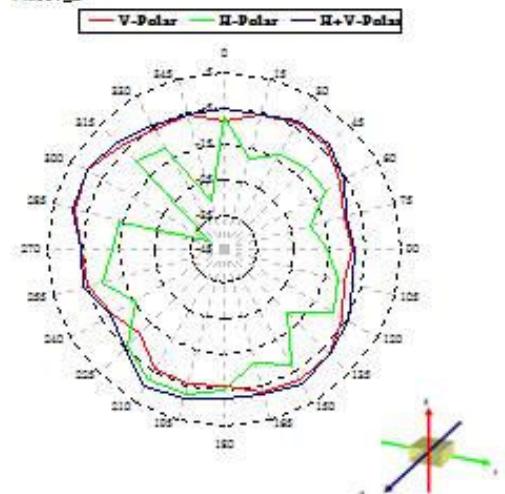
plane	Phi0	Phi90	Theta90
V(Peak Gain)	-3.71	0.26	-2.37
H(Peak Gain)	-2.28	-1.62	-1.25
V(Avg Gain)	-9.17	-5.36	-7.79
H(Avg Gain)	-6.04	-13.32	-8.51

1880 MHz

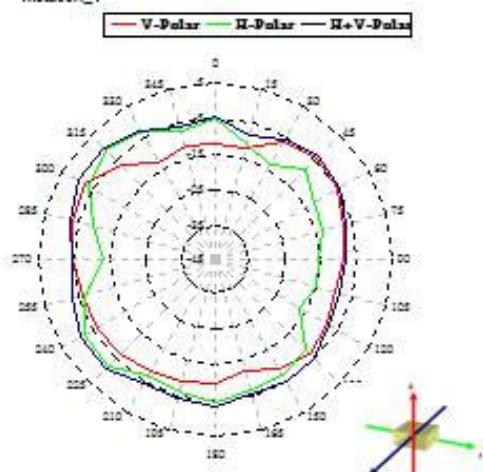
Phi0X\_Z



Phi90Y\_Z



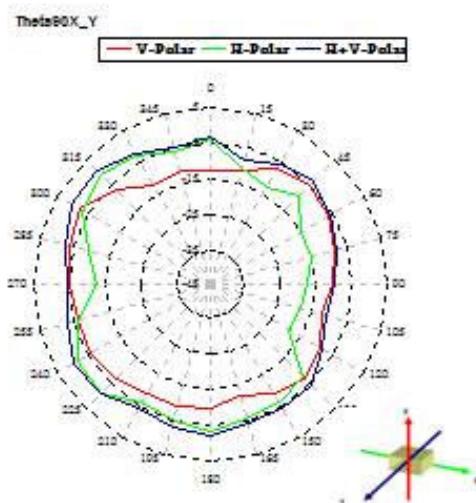
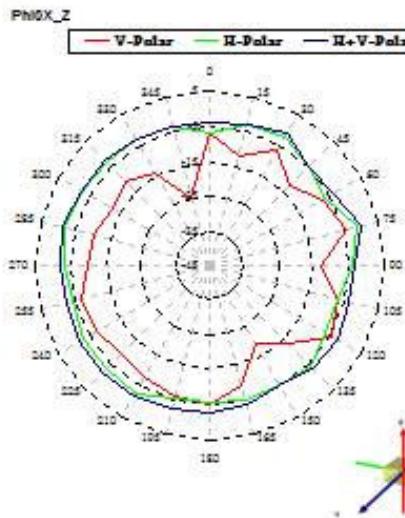
Theta90X\_Y



Frequency = 1880 MHz

plane Azimuth(Rad)	Phi0	Phi90	Theta90
V(Peak Gain)	-4.76	-0.06	-2.36
H(Peak Gain)	-2.12	-2.00	-1.26
V(Avg Gain)	-9.77	-5.61	-8.07
H(Avg Gain)	-5.46	-13.45	-8.60

1910 MHz

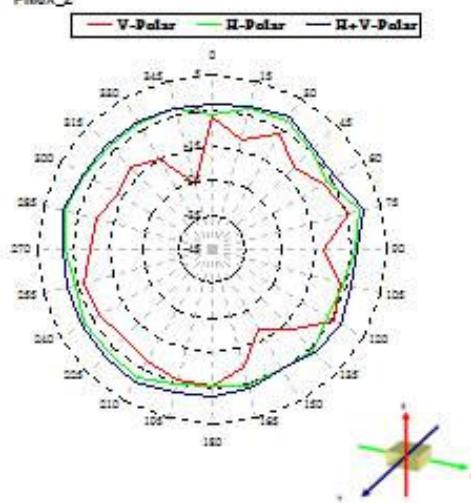


Frequency = 1910 MHz

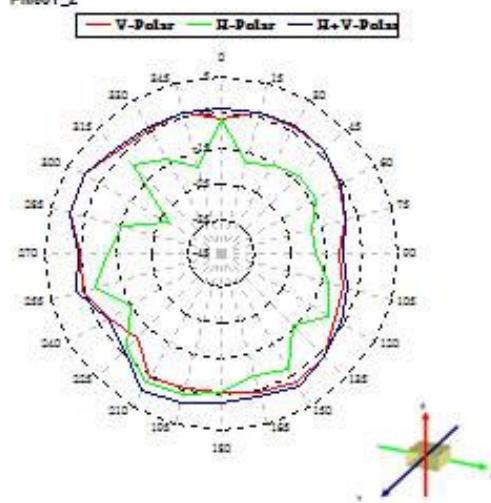
plane \ gain/dB	Phi0	Phi90	Theta90
V(Peak Gain)	-4.77	-0.18	-2.42
H(Peak Gain)	-1.61	-2.45	-0.73
V(Avg Gain)	-10.23	-5.54	-8.54
H(Avg Gain)	-4.31	-12.83	-8.53

1920 MHz

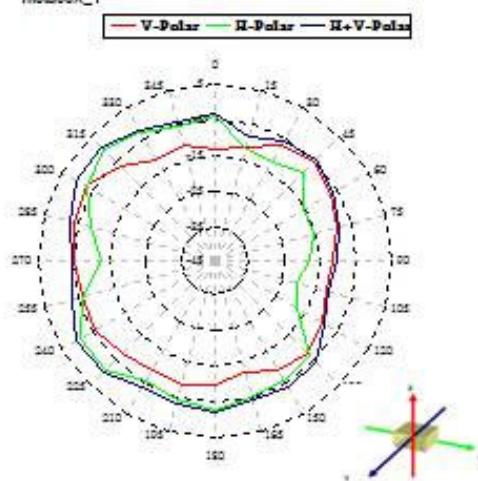
Phi0X\_Z



Phi90Y\_Z



Theta90X\_Y

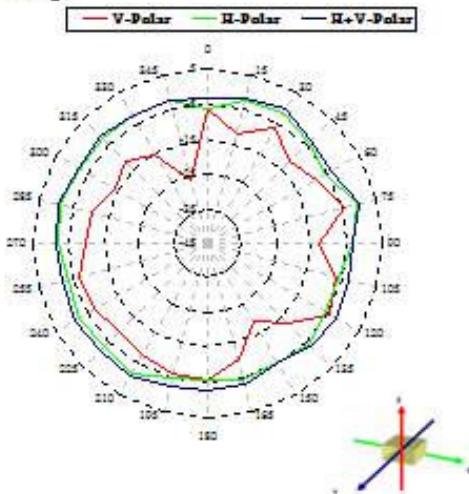


Frequency = 1920 MHz

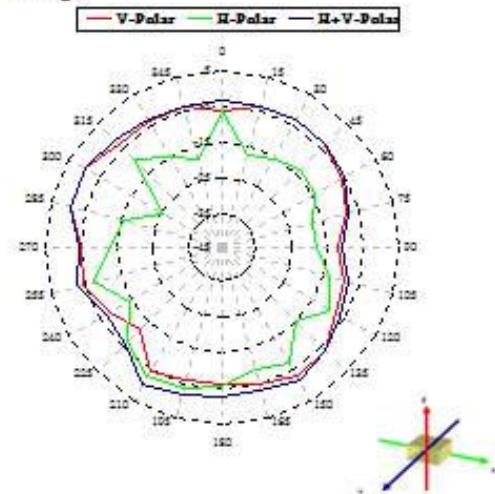
plane Axis(dB)	Phi0	Phi90	Theta90
V(Peak Gain)	-4.73	-0.23	-2.61
H(Peak Gain)	-1.46	-2.58	-0.56
V(Avg Gain)	-10.35	-5.51	-8.62
H(Avg Gain)	-3.96	-12.72	-8.43

1930 MHz

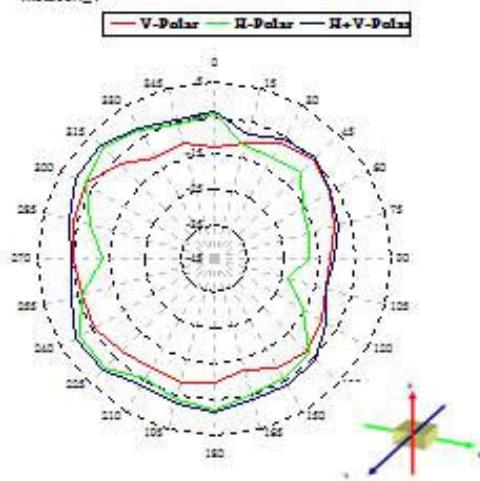
Phi0X\_Z



Phi90Y\_Z



Theta90X\_Y

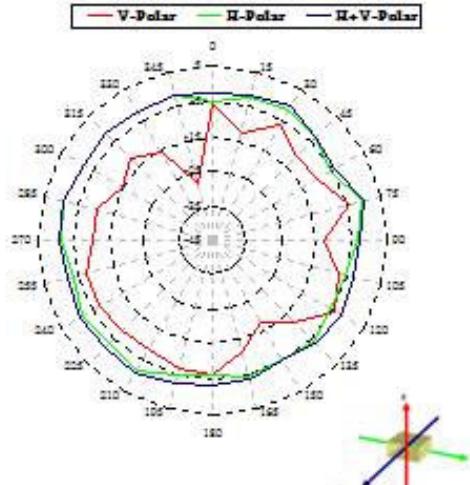


Frequency = 1930 MHz

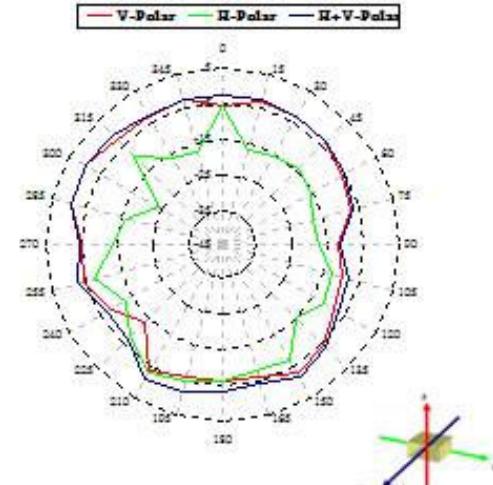
plane Ant(dBil)	Phi0	Phi90	Theta90
V(Peak Gain)	-4.64	-0.31	-2.77
H(Peak Gain)	-1.31	-2.90	-0.46
V(Avg Gain)	-10.52	-5.51	-8.70
H(Avg Gain)	-3.70	-12.67	-8.36

1950 MHz

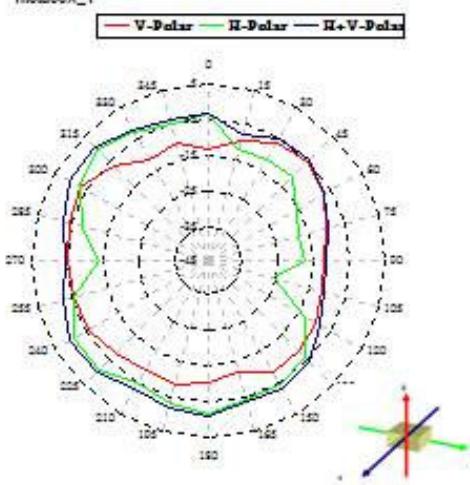
Phi0X\_Z



Phi90Y\_Z



Theta90X\_Y

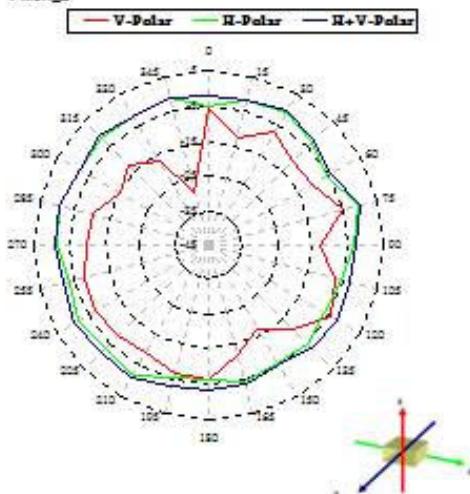


Frequency = 1950 MHz

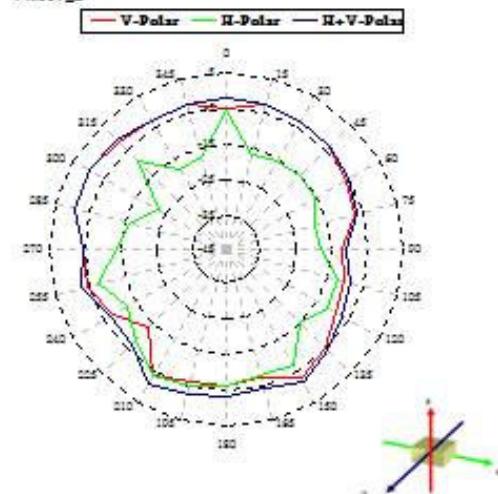
plane Axis(dB)	Phi0	Phi90	Theta90
V(Peak Gain)	-4.78	-0.29	-3.06
H(Peak Gain)	-0.89	-3.53	-0.39
V(Avg Gain)	-10.78	-5.46	-8.58
H(Avg Gain)	-3.42	-12.68	-8.15

1960 MHz

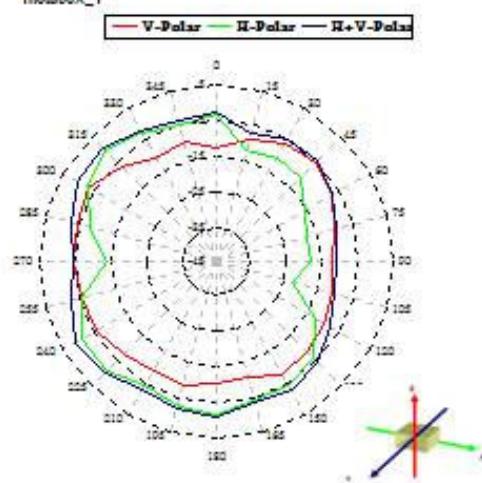
Phi0X\_Z



Phi0Y\_Z



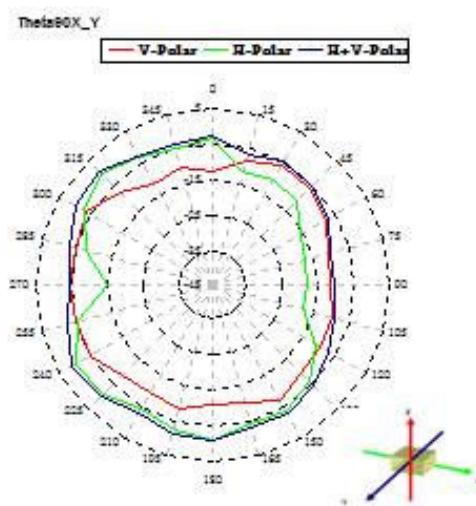
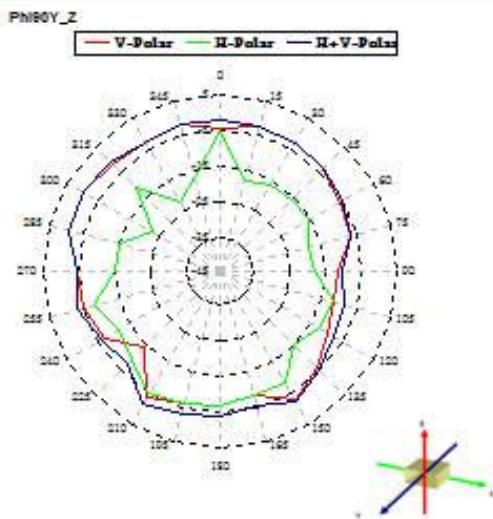
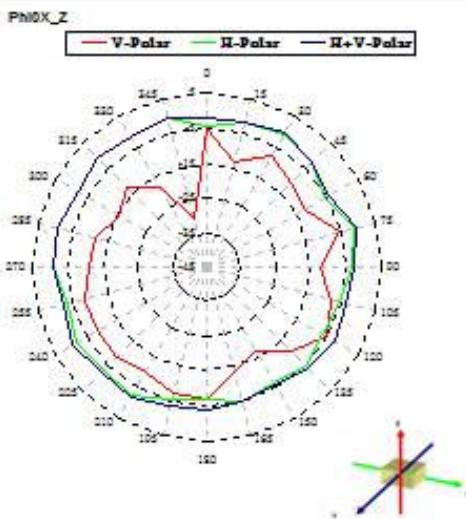
Theta90X\_Y



Frequency = 1960 MHz

plane Antennaln	Phi0	Phi90	Theta90
V(Peak Gain)	-4.90	-0.34	-3.37
H(Peak Gain)	-0.81	-3.96	-0.41
V(Avg Gain)	-10.93	-5.49	-8.46
H(Avg Gain)	-3.38	-12.83	-7.94

1980 MHz

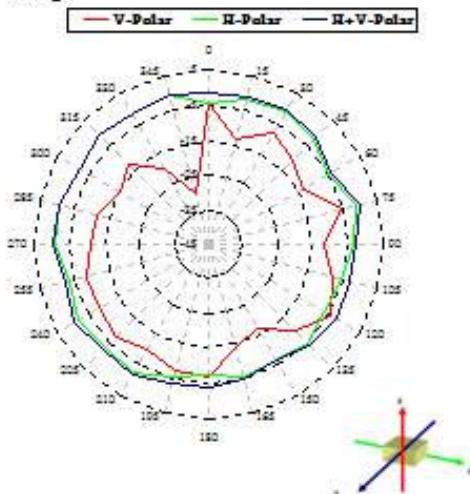


Frequency = 1980 MHz

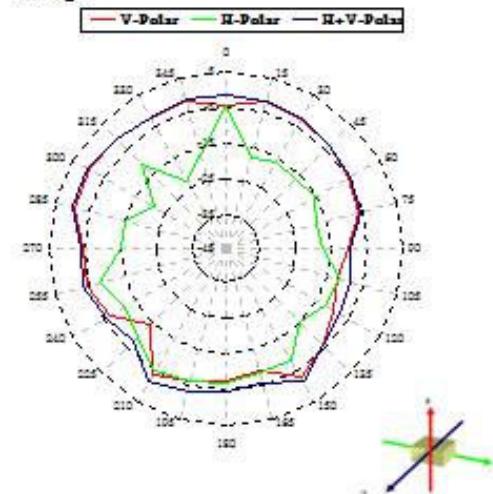
plane	Phi0	Phi90	Theta90
V(Peak Gain)	-5.15	-0.43	-4.01
H(Peak Gain)	-0.87	-4.84	-0.64
V(Avg Gain)	-11.52	-5.64	-8.52
H(Avg Gain)	-3.50	-13.28	-7.68

1990 MHz

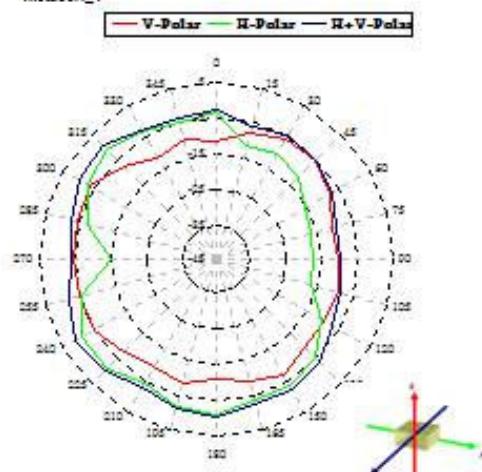
Phi0X\_Z



Phi90Y\_Z



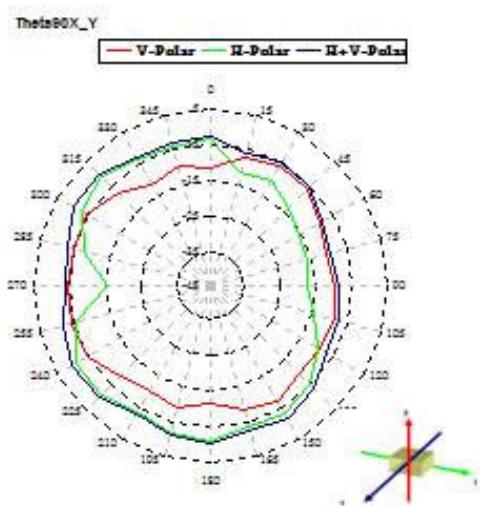
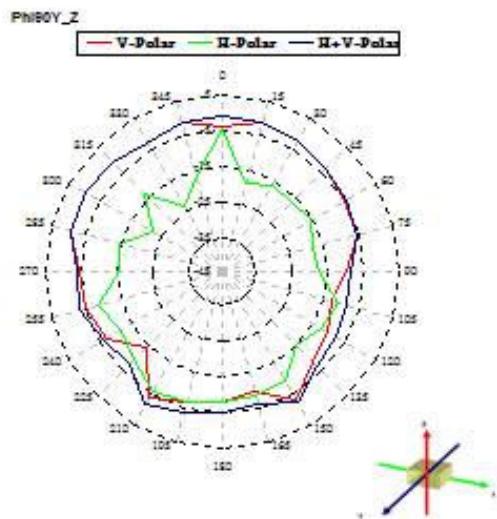
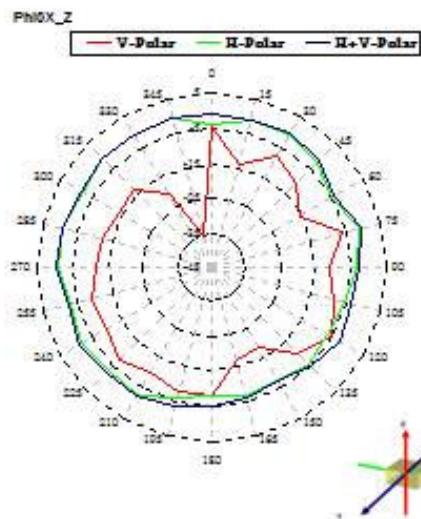
Theta90X\_Y



Frequency = 1990 MHz

plane antenna	Phi0	Phi90	Theta90
V(Peak Gain)	-4.75	-0.08	-3.96
H(Peak Gain)	-0.78	-4.76	-0.66
V(Avg Gain)	-11.39	-5.32	-8.14
H(Avg Gain)	-3.42	-13.25	-7.45

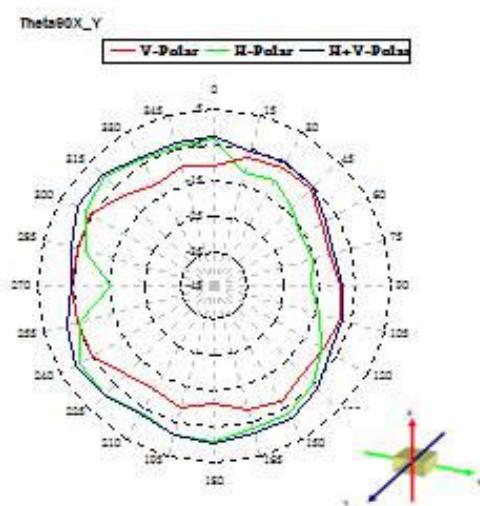
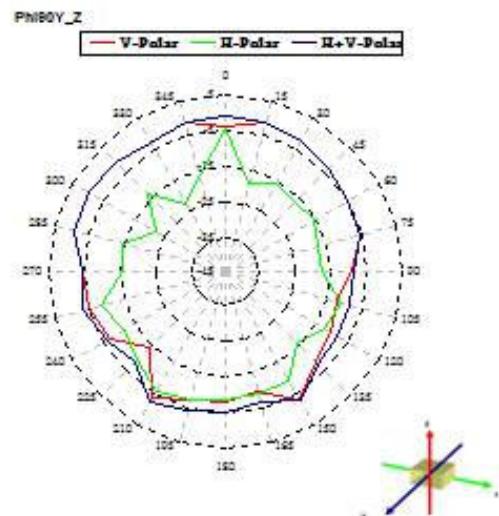
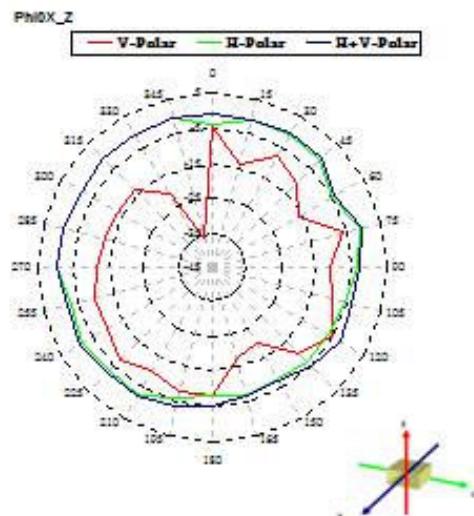
2010 MHz



Frequency = 2010 MHz

plane	Phi0	Phi90	Theta90
V(Peak Gain)	-4.50	-0.29	-4.49
H(Peak Gain)	-0.57	-4.50	-0.78
V(Avg Gain)	-12.22	-5.52	-8.29
H(Avg Gain)	-3.51	-13.53	-7.36

2018 MHz

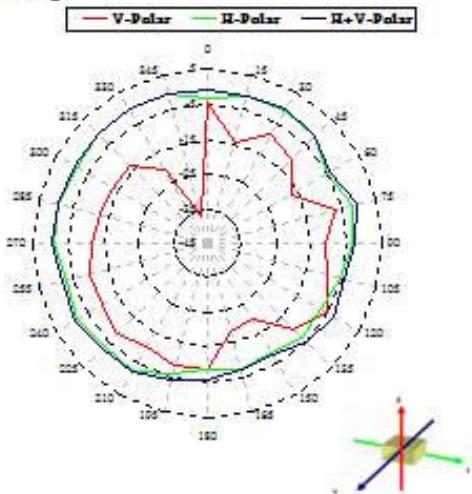


Frequency = 2018 MHz

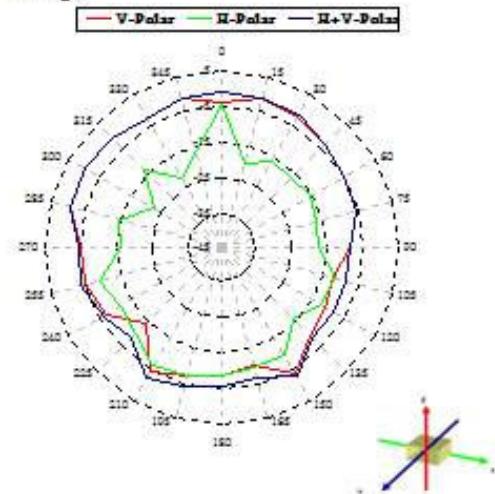
plane \ polar	Phi0	Phi90	Theta90
V(Peak Gain)	-4.40	-0.38	-4.75
H(Peak Gain)	-0.38	-4.40	-0.68
V(Avg Gain)	-12.44	-5.62	-8.39
H(Avg Gain)	-3.50	-13.59	-7.35

2025 MHz

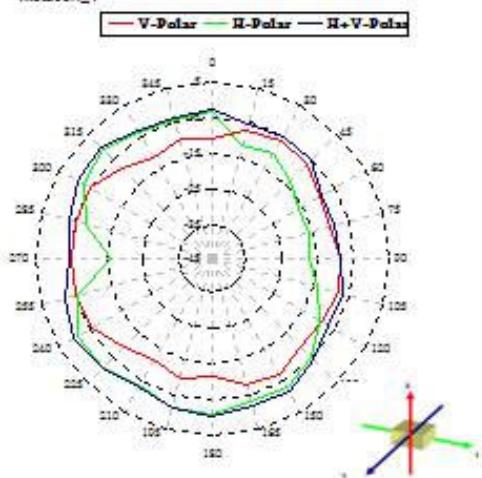
Phi0X\_Z



Phi90Y\_Z



Theta90X\_Y

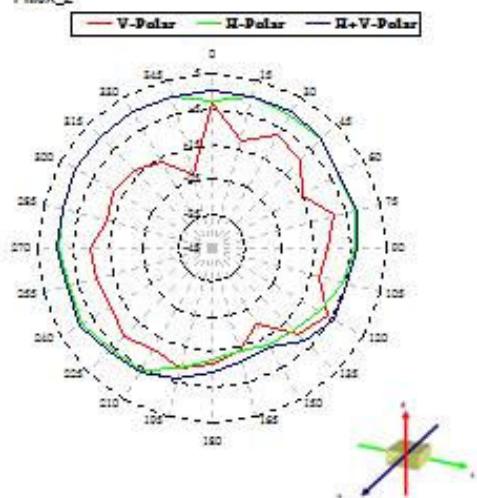


Frequency = 2025 MHz

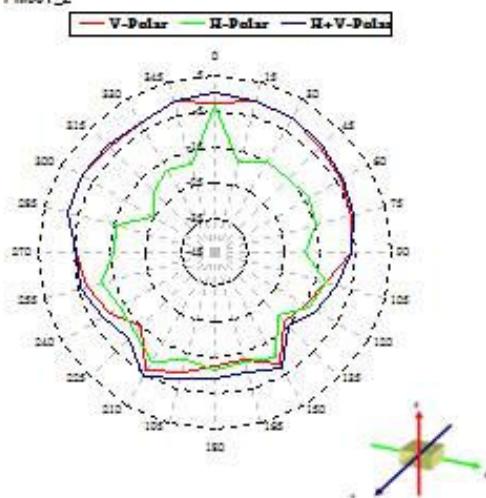
plane AntennalBil	Phi0	Phi90	Theta90
V(Peak Gain)	-4.37	-0.50	-4.87
H(Peak Gain)	-0.27	-4.37	-0.76
V(Avg Gain)	-12.69	-5.74	-8.46
H(Avg Gain)	-3.61	-13.80	-7.44

2110 MHz

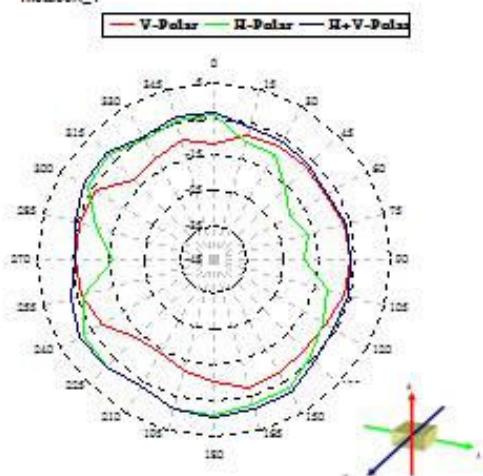
Phi0X\_Z



Phi90Y\_Z



Theta90X\_Y

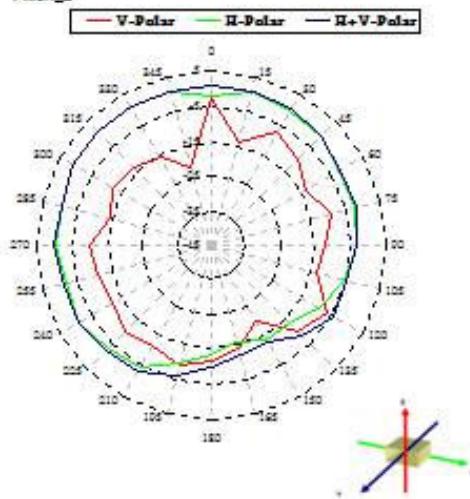


Frequency = 2110 MHz

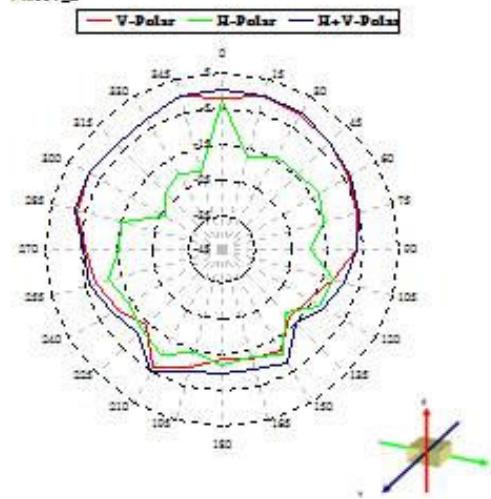
plane	Phi0	Phi90	Theta90
V(Peak Gain)	-3.35	-0.19	-5.76
H(Peak Gain)	0.37	-3.35	-0.95
V(Avg Gain)	-12.04	-6.90	-9.04
H(Avg Gain)	-4.44	-15.00	-7.95

2140 MHz

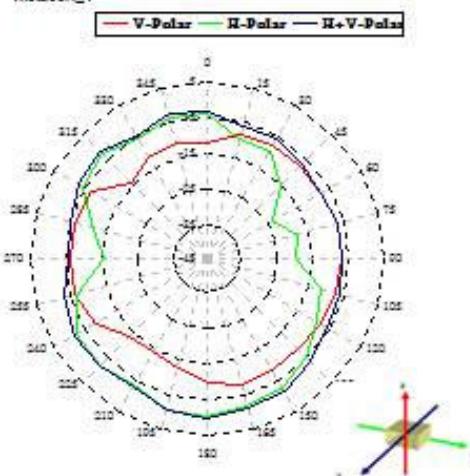
Phi0X\_Z



Phi90Y\_Z

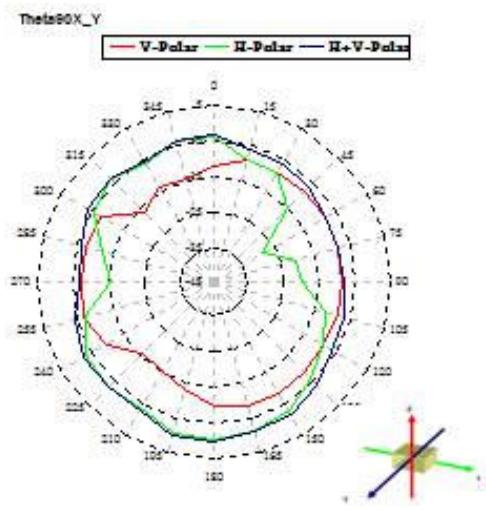
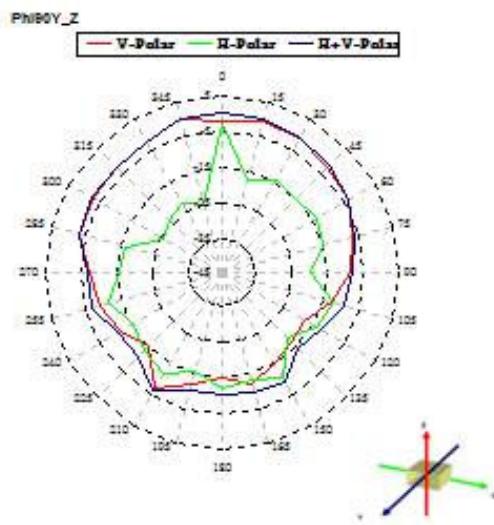
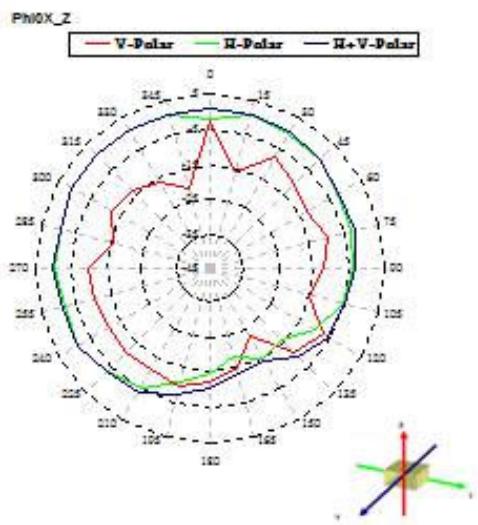


Theta90X\_Y



plane	Phi0	Phi90	Theta90
V(Peak Gain)	-2.87	0.23	-6.21
H(Peak Gain)	0.86	-2.87	-0.31
V(Avg Gain)	-12.13	-7.25	-9.39
H(Avg Gain)	-4.25	-15.25	-7.99

**2170 MHz**



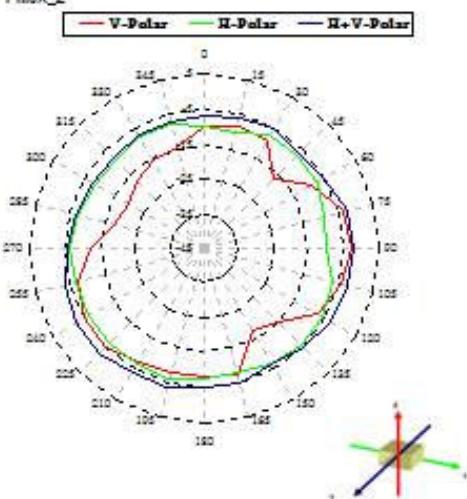
Frequency = 2170 MHz

plane	Phi0	Phi90	Theta90
V(Peak Gain)	-2.91	0.19	-7.01
H(Peak Gain)	0.88	-2.91	-0.08
V(Avg Gain)	-12.64	-7.95	-10.44
H(Avg Gain)	-4.83	-15.94	-8.59

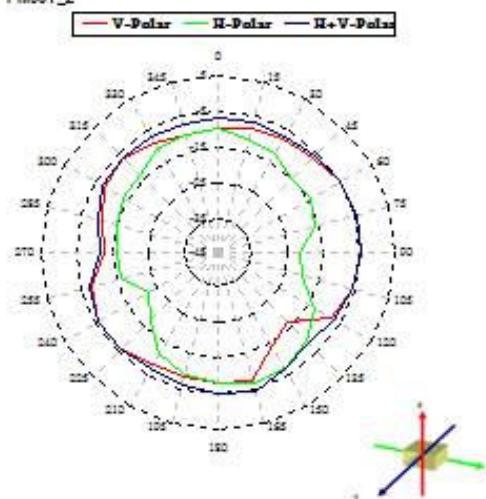
## Diversity Antenna

869 MHz

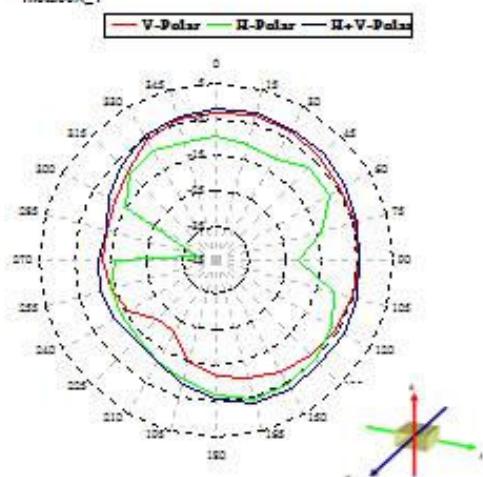
Phi0X\_Z



Phi90Y\_Z



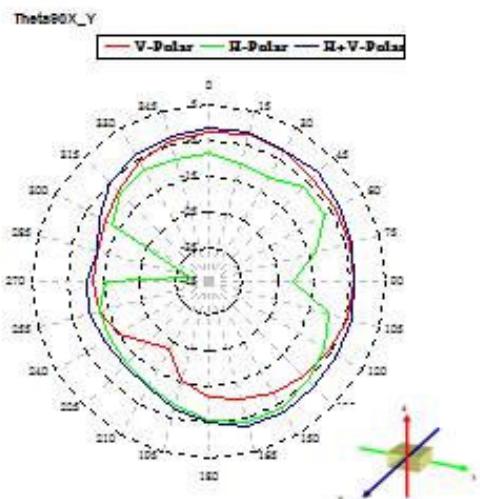
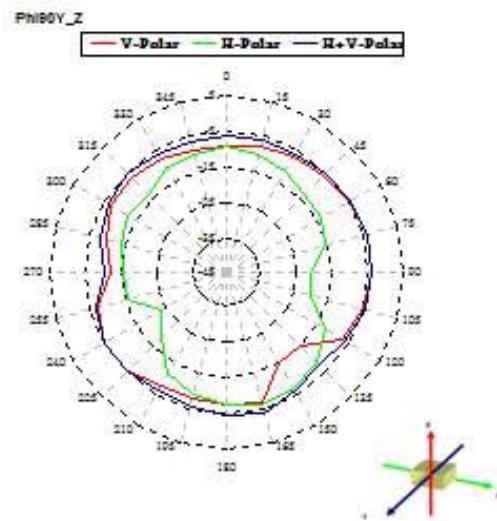
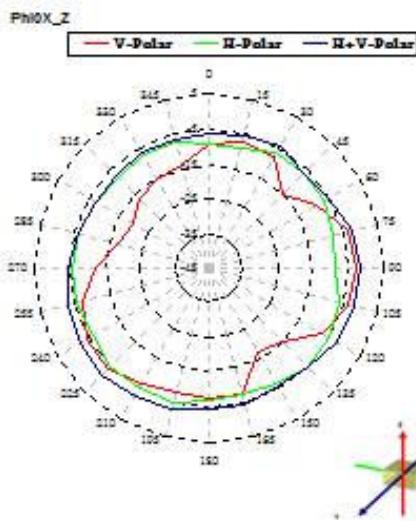
Theta90X\_Y



Frequency = 869 MHz

plane gain(dB)	Phi0	Phi90	Theta90
V(Peak Gain)	-3.09	-4.51	-2.80
H(Peak Gain)	-5.72	-7.04	-4.23
V(Avg Gain)	-10.69	-8.63	-9.22
H(Avg Gain)	-7.77	-13.65	-12.02

875 MHz

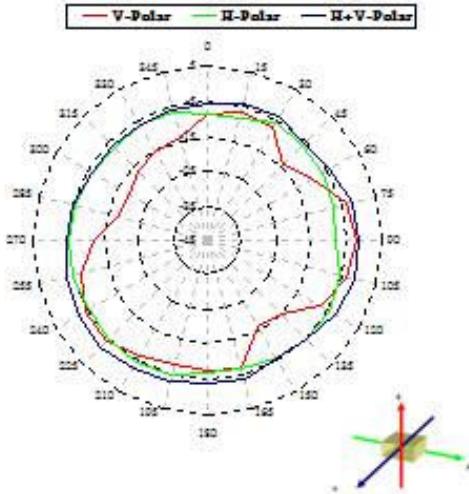


Frequency = 875 MHz

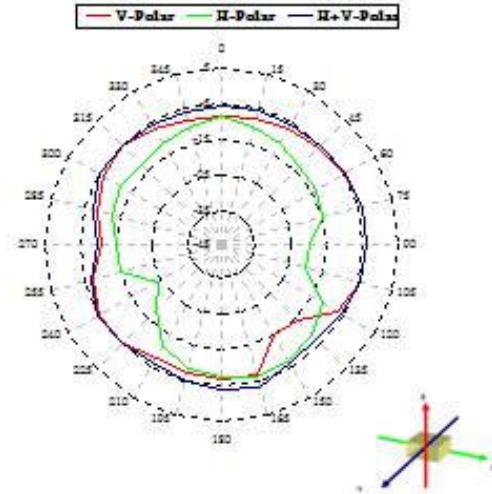
plane \ Gain(dB)	Phi0	Phi90	Theta90
V(Peak Gain)	-2.69	-4.19	-2.27
H(Peak Gain)	-5.02	-6.53	-3.68
V(Avg Gain)	-10.18	-7.90	-8.81
H(Avg Gain)	-6.96	-13.19	-11.17

880 MHz

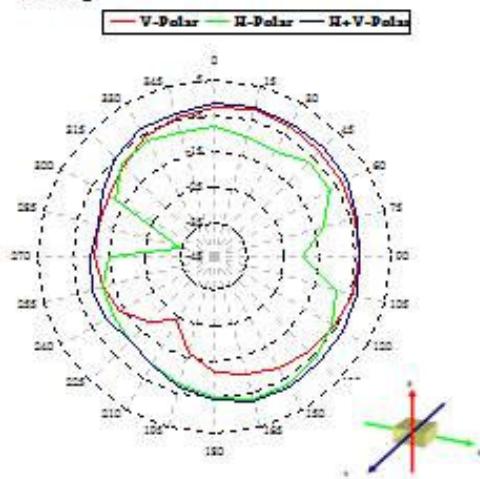
Phi0X\_Z



Phi90Y\_Z



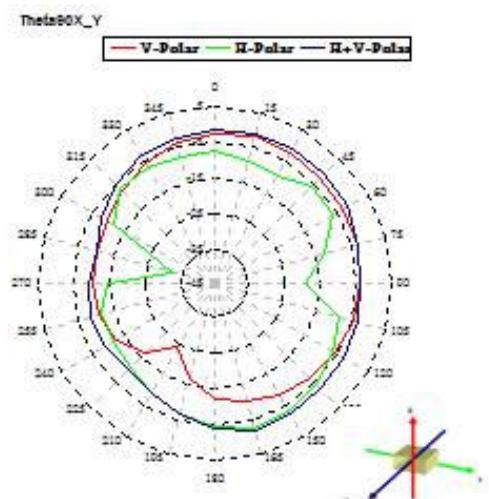
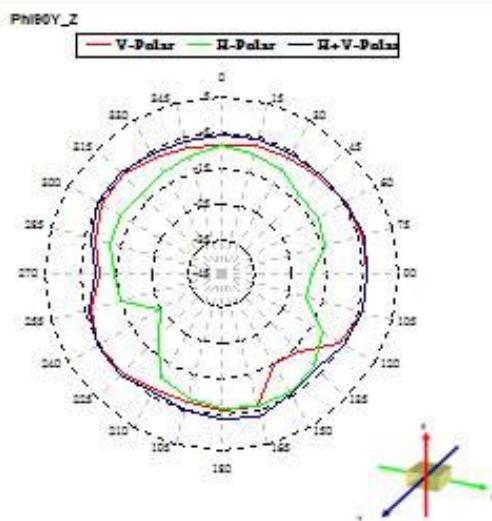
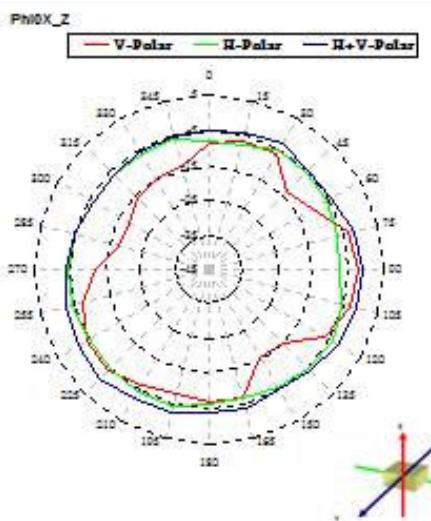
Theta90X\_Y



Frequency = 880 MHz

plane \ Gain(dB)	Phi0	Phi90	Theta90
V(Peak Gain)	-2.50	-3.98	-1.97
H(Peak Gain)	-4.56	-6.28	-3.30
V(Avg Gain)	-9.92	-7.45	-8.56
H(Avg Gain)	-6.35	-12.91	-10.38

885MHz

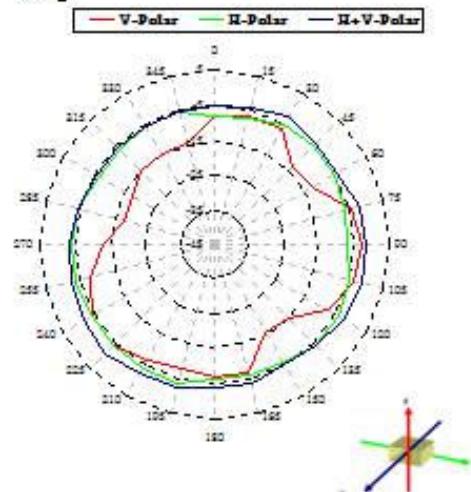


Frequency = 885 MHz

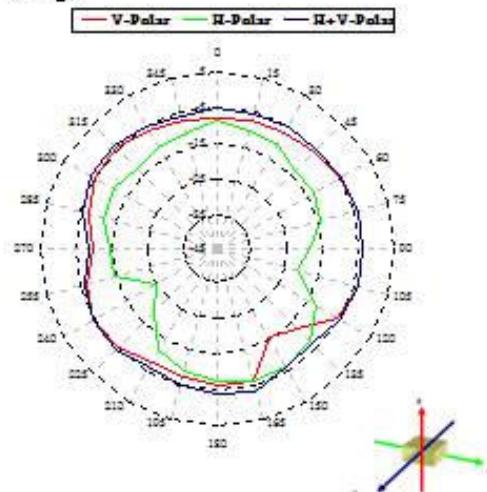
plane Gain(dB)	Phi0	Phi90	Theta90
V(Peak Gain)	-2.46	-3.86	-1.85
H(Peak Gain)	-4.20	-6.15	-2.97
V(Avg Gain)	-9.80	-7.10	-8.32
H(Avg Gain)	-5.91	-12.73	-9.82

894 MHz

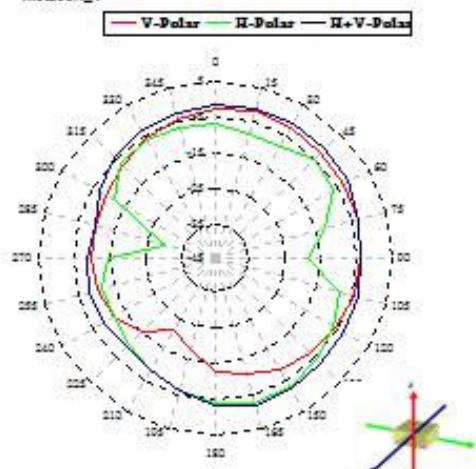
Phi0X\_Z



Phi90Y\_Z



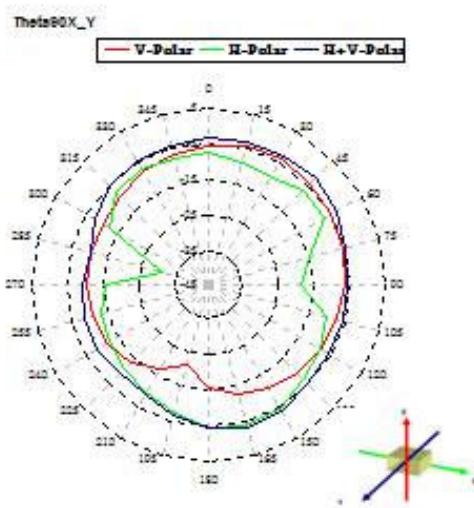
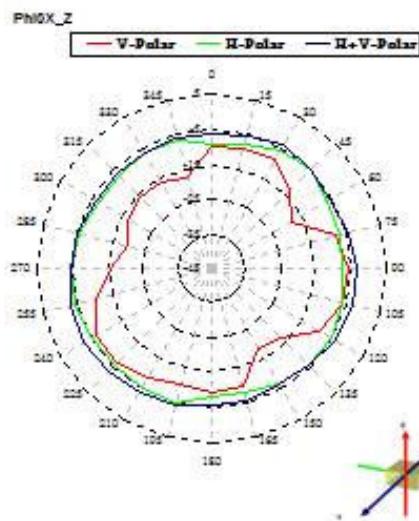
Theta90X\_Y



Frequency = 894 MHz

plane \ Gain(dB)	Phi0	Phi90	Theta90
V(Peak Gain)	-2.83	-4.02	-1.93
H(Peak Gain)	-3.94	-6.34	-2.68
V(Avg Gain)	-9.99	-6.90	-8.20
H(Avg Gain)	-6.48	-12.80	-9.30

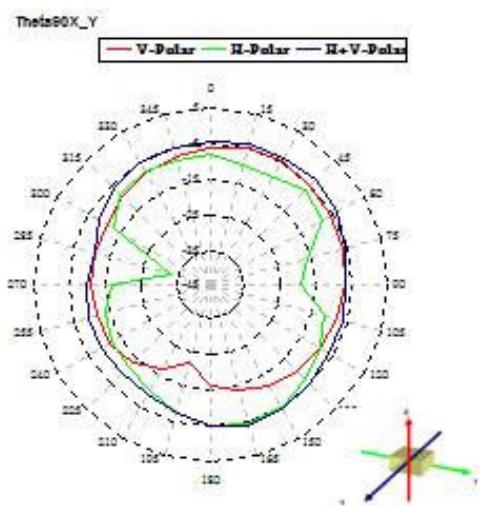
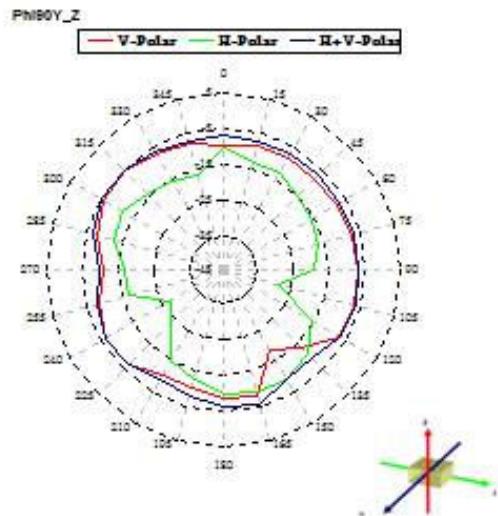
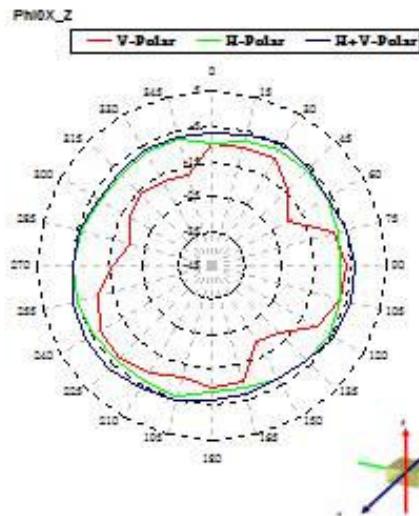
915 MHz



Frequency = 915 MHz

plane	Phi0	Phi90	Theta90
V(Peak Gain)	-5.60	-5.07	-4.00
H(Peak Gain)	-4.61	-8.52	-3.85
V(Avg Gain)	-12.23	-8.19	-9.65
H(Avg Gain)	-6.54	-14.93	-10.55

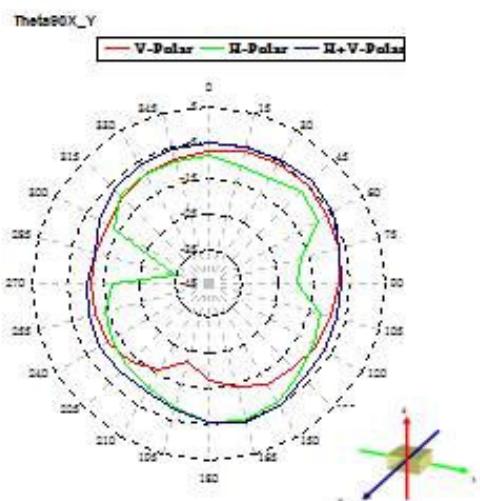
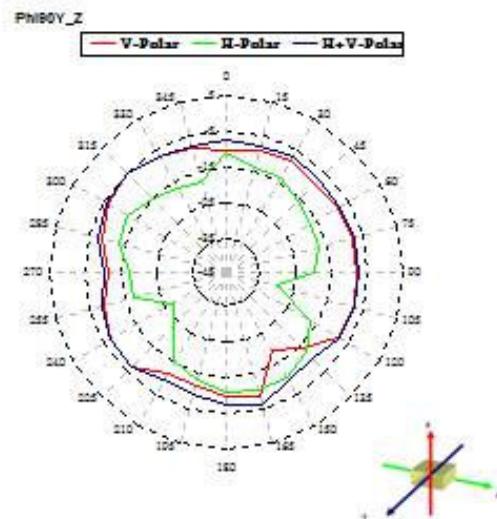
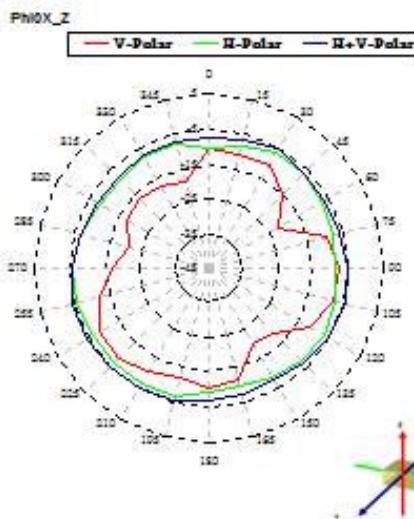
920 MHz



Frequency = 920 MHz

plane	Phi0	Phi90	Theta90
V(Peak Gain)	-6.51	-5.47	-4.77
H(Peak Gain)	-5.10	-9.31	-4.42
V(Avg Gain)	-12.99	-8.79	-10.23
H(Avg Gain)	-7.13	-15.73	-11.22

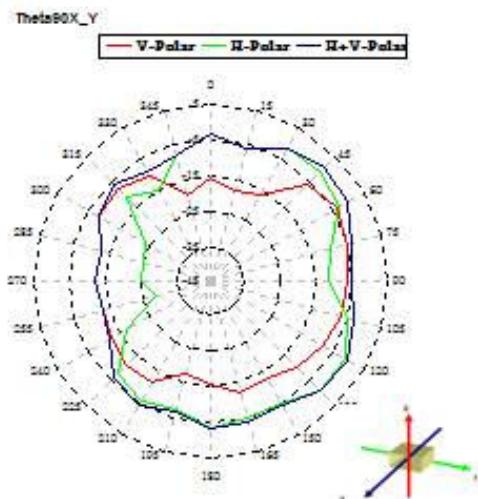
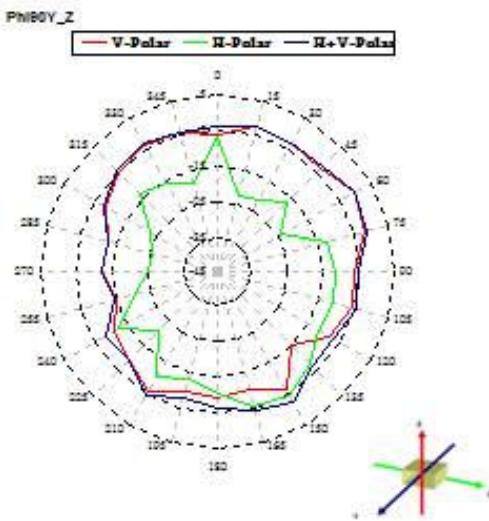
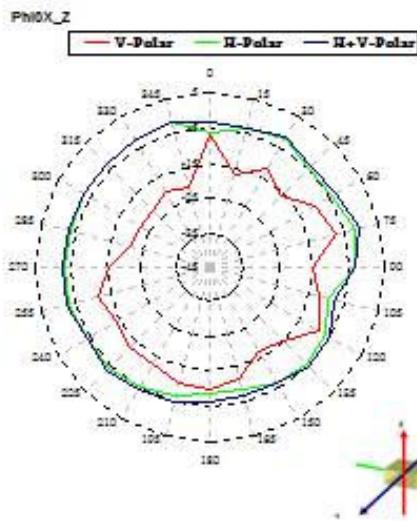
925 MHz



Frequency = 925 MHz

plane Gain(dB)	Phi0	Phi90	Theta90
V(Peak Gain)	-7.43	-5.91	-5.62
H(Peak Gain)	-5.67	-10.24	-5.11
V(Avg Gain)	-13.86	-9.44	-10.87
H(Avg Gain)	-7.80	-16.51	-12.00

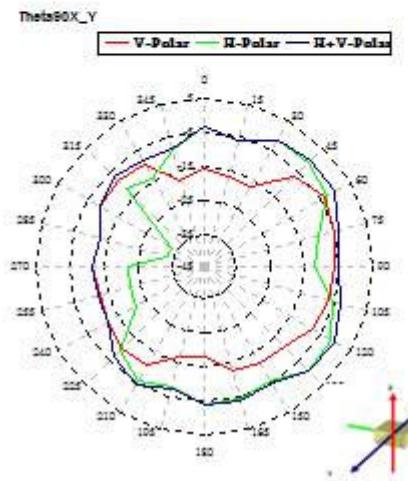
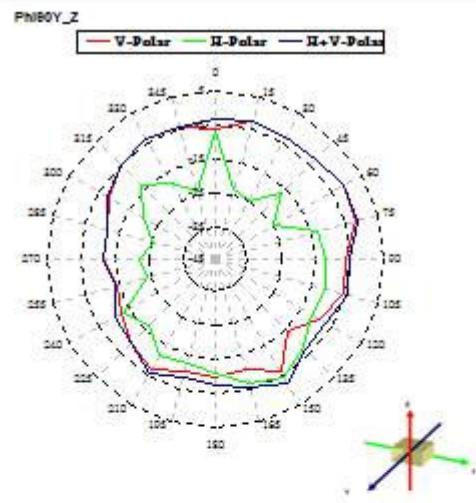
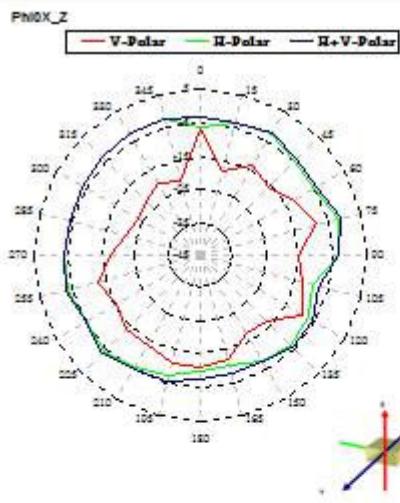
1930 MHz



Frequency = 1930 MHz

plane polarization	Phi0	Phi90	Theta90
V(Peak Gain)	-7.04	-0.64	-3.97
H(Peak Gain)	-2.27	-4.34	-1.08
V(Avg Gain)	-14.48	-7.45	-11.64
H(Avg Gain)	-4.96	-15.45	-9.78

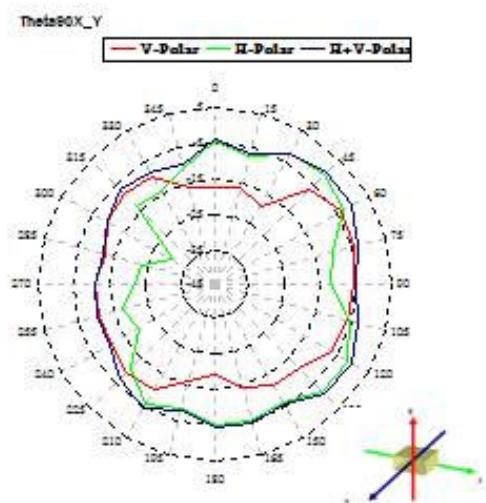
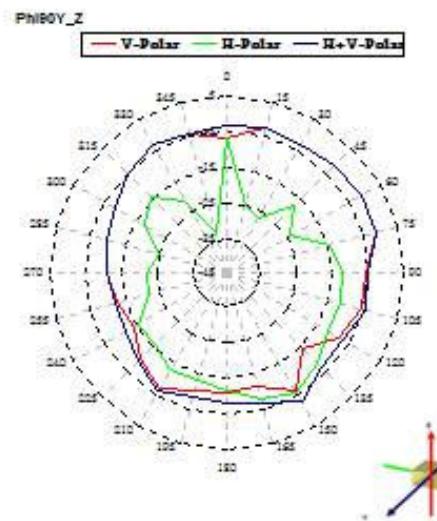
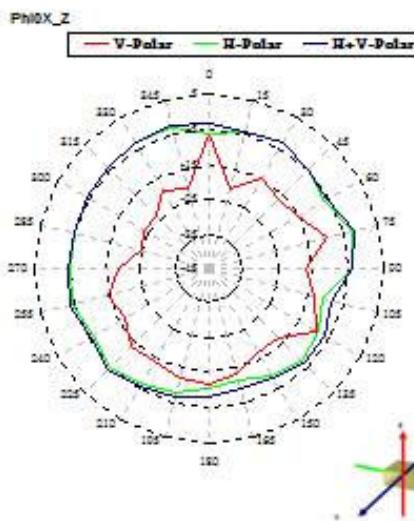
1960 MHz



Frequency = 1960 MHz

plane Azim(dB)	Phi0	Phi90	Theta90
V(Peak Gain)	-6.83	-0.81	-4.08
H(Peak Gain)	-2.37	-4.77	-1.19
V(Avg Gain)	-15.34	-7.58	-11.48
H(Avg Gain)	-5.39	-15.96	-10.56

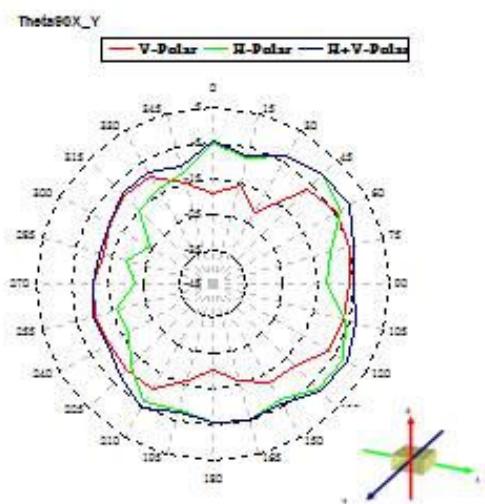
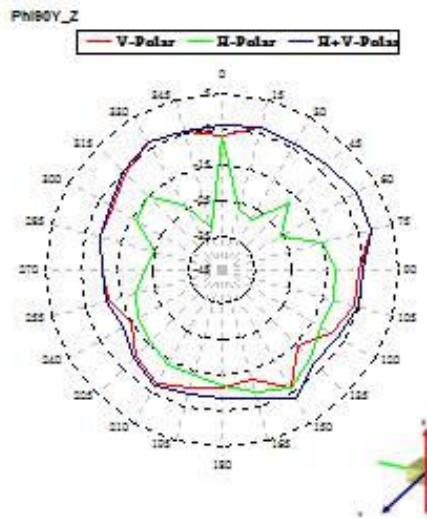
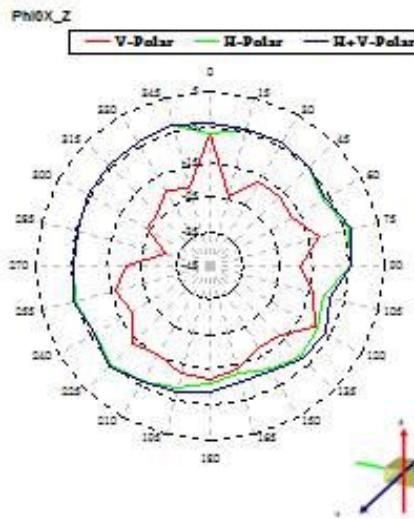
1990 MHz



Frequency = 1990 MHz

plane Azimuth(BB)	Phi0	Phi90	Theta90
V(Peak Gain)	-6.64	-0.73	-3.90
H(Peak Gain)	-3.13	-5.64	-1.48
V(Avg Gain)	-16.23	-7.50	-11.40
H(Avg Gain)	-6.23	-16.82	-10.29

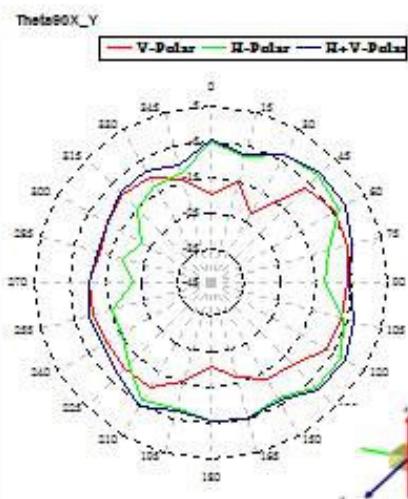
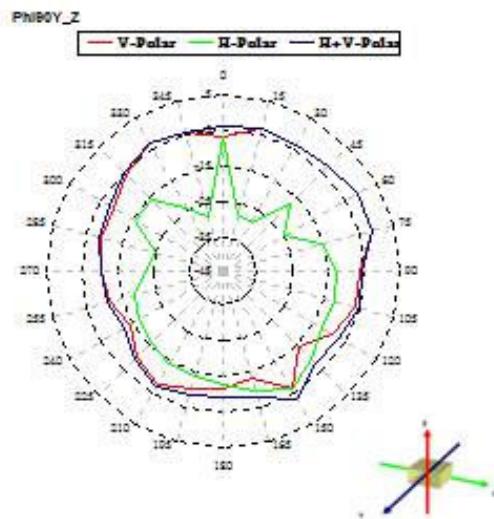
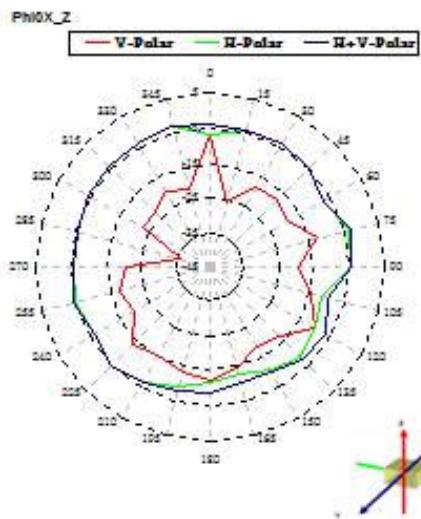
2010 MHz



Frequency = 2010 MHz

Plane	Phi0	Phi90	Theta90
V(Peak Gain)	-6.93	-1.17	-4.31
H(Peak Gain)	-3.55	-6.33	-1.84
V(Avg Gain)	-17.54	-7.75	-11.87
H(Avg Gain)	-6.77	-17.39	-10.10

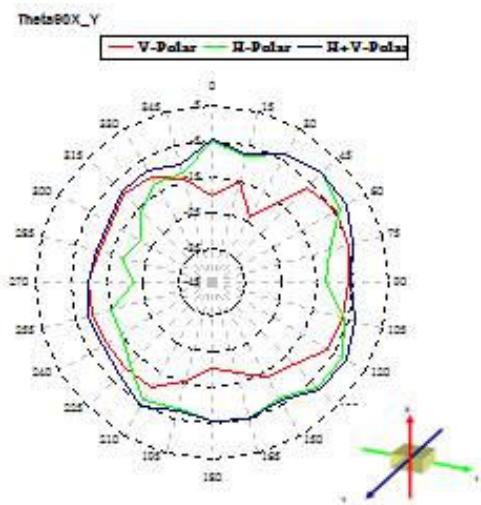
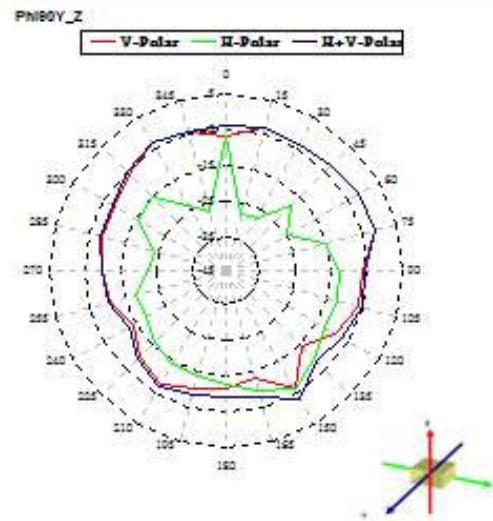
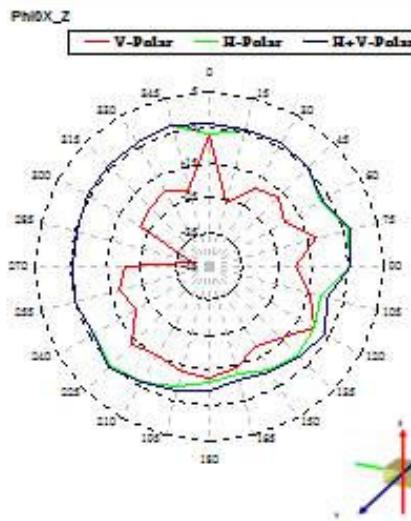
2018 MHz



Frequency = 2018 MHz

plane Gain(dB)	Phi0	Phi90	Theta90
V(Peak Gain)	-6.98	-1.23	-4.50
H(Peak Gain)	-3.60	-6.48	-1.89
V(Avg Gain)	-18.03	-7.74	-11.94
H(Avg Gain)	-6.85	-17.34	-9.99

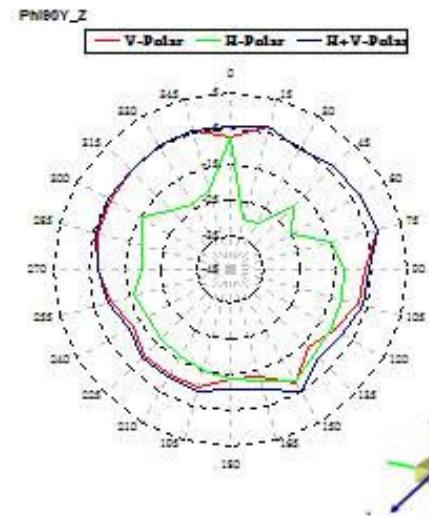
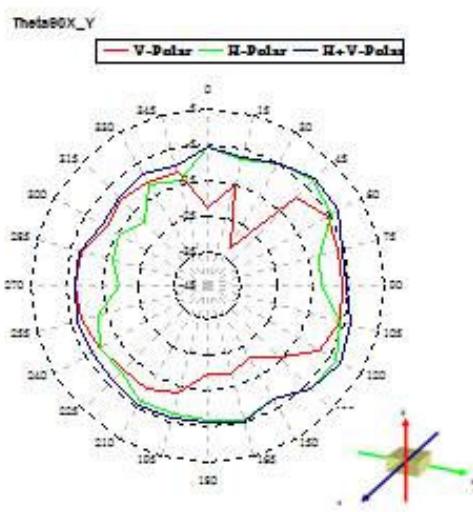
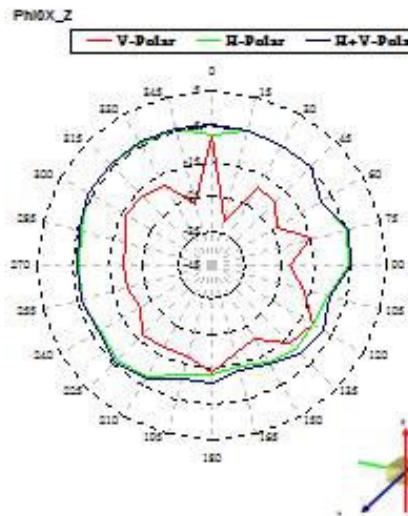
2025 MHz



Frequency = 2025 MHz

plane Azim(Bill)	Phi0	Phi90	Theta90
V(Peak Gain)	-6.95	-1.39	-4.49
H(Peak Gain)	-3.62	-6.52	-1.82
V(Avg Gain)	-18.33	-7.67	-11.96
H(Avg Gain)	-6.88	-17.21	-9.84

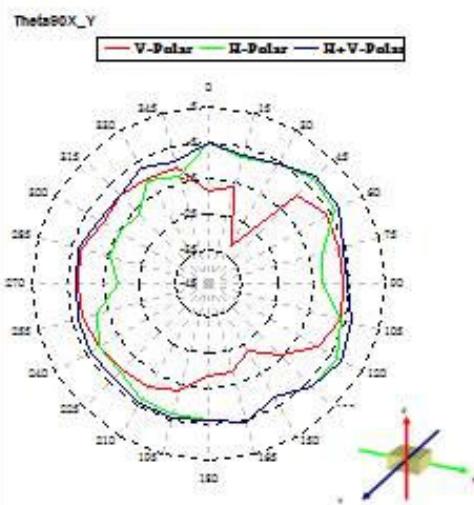
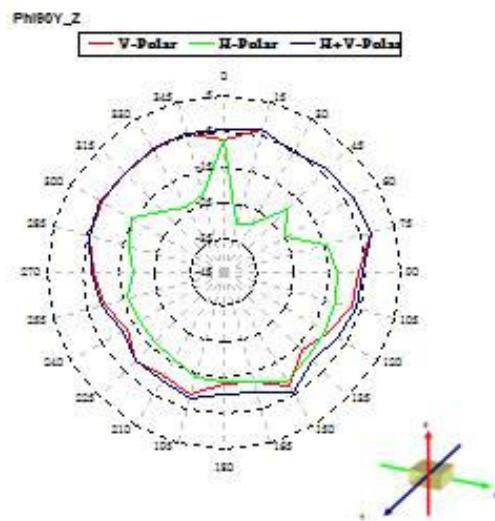
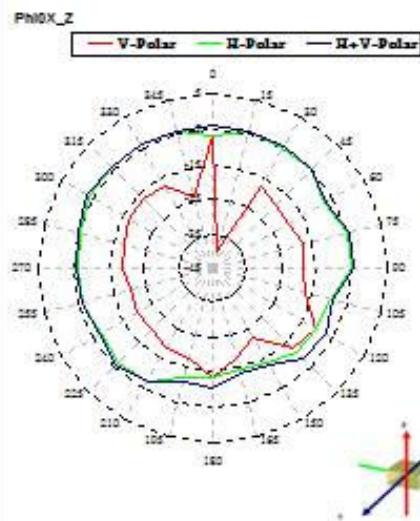
2110 MHz



Frequency = 2110 MHz

plane axis(dB)	Phi0	Phi90	Theta90
V(Peak Gain)	-7.37	-2.41	-5.94
H(Peak Gain)	-4.23	-7.37	-2.73
V(Avg Gain)	-18.75	-7.87	-12.73
H(Avg Gain)	-7.90	-17.41	-9.66

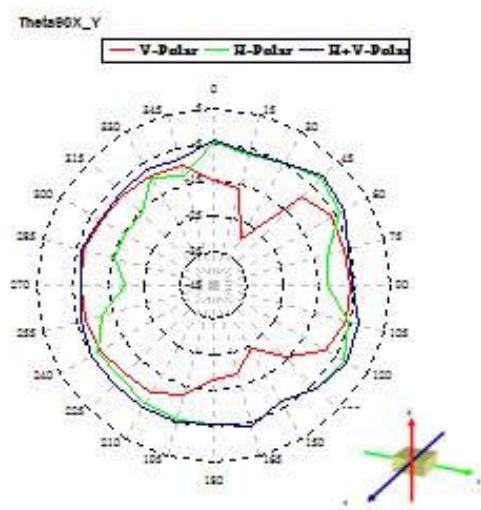
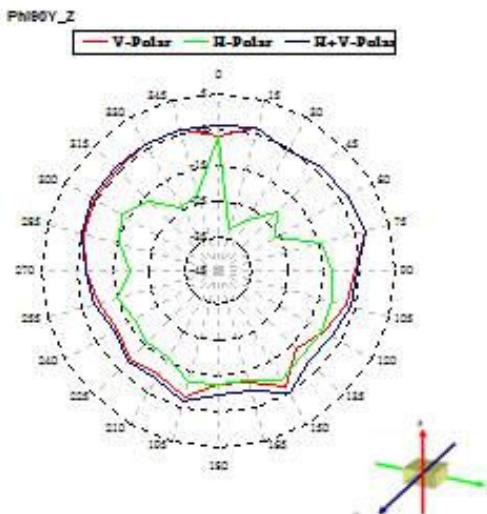
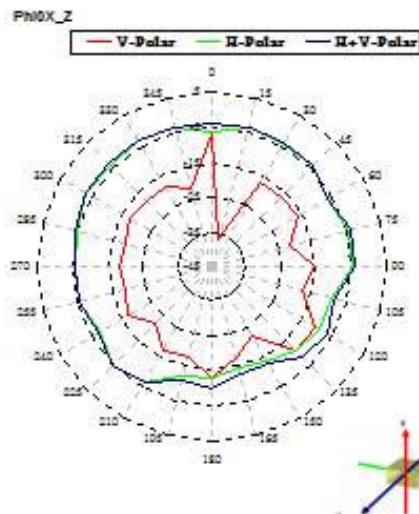
2140 MHz



Frequency = 2140 MHz

plane \ Gain(dB)	Phi0	Phi90	Theta90
V(Peak Gain)	-7.26	-2.38	-6.13
H(Peak Gain)	-3.89	-7.26	-2.57
V(Avg Gain)	-18.71	-7.77	-12.53
H(Avg Gain)	-7.63	-17.15	-9.16

2170 MHz



Frequency = 2170 MHz

plane Azimuth	Phi0	Phi90	Theta90
V(Peak Gain)	-6.82	-2.09	-6.07
H(Peak Gain)	-3.63	-6.82	-2.20
V(Avg Gain)	-18.12	-7.32	-11.84
H(Avg Gain)	-7.19	-16.89	-8.61